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INSTRUCTIONS USE AND MAINTENANCE HANDBOOK

INSTRUCTIONS FOR THE INSTALLATION

DUO

Medical Device for Dentistry

380 . 2E . G05

Summary

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Appendix I – Certifications

DUO

PART I - INSTRUCTIONS USE AND MAINTENANCE HANDBOOK

IMPORTANT NOTICE

This unit is a medical device for dental treatment conforming to EEC Directive 93/42 - MEDICAL DEVICES - (see enclosed certification of compliance) and with CEI EN 60601-1 standard (General standard for the safety of electromedical equipment).
It is intended to be used by dentists only, who may avail themselves of the assistance of authorized personnel.
We prescribe to read the instructions contained in the users' manual carefully before using the unit.
Furthermore, before using any of the devices connected to the dental unit, **we prescribe to** read the instructions attached to each single device carefully.

The instructions for installing the device and the instructions for technical service and repair are held by the "CASTELLINI AUTHORISED" TECHNICIAN IN POSSESSION OF A VALID LICENCE.

The Manufacturer will not be held responsible for the safety, reliability, or performance of the equipment in the event of civil or penal proceedings if:

a) the essential environmental requirements as stated in the "Table on Compliance of Installations, Premises and Supply" are not met;

b) assembly, additions, adjustments, re-settings, repairs are not performed by **"AUTHORISED CASTELLINI TECHNICIANS" IN POSSESSION OF A VALID CASTELLINI IDENTIFICATION CARD;**

c) any medical devices other than those authorised by Castellini itself or devices that fail to meet the compatibility parameters specified by Castellini S.p.A. are connected to Castellini equipment;

d) unauthorised modification, arbitrary tamperings, incorrect maintenance operations are carried out or if non-original spare parts and/or components are used;

e) the equipment is not used in compliance with the instructions for use (as set out in the use and maintenance manual) or if it is used for purposes other than those for which it is designed;

f) the power, water and compressed air supply, the water drainage system and the air extraction system (where applicable) do not comply with the conditions stated in the use and maintenance manual (see "preparing for installation" paragraph and equipment installations plan, scale 1:1 code F2210587 *(for ambidextrous version*) and code F2210B588 *(for right-hand version)* and comply with the country legal provisions;

g) scheduled technical maintenance is not performed at the times indicated;

h) the user does not undertake all routine maintenance work and does not comply with the directions and rules in this use and maintenance manual.

Failure to comply with the above conditions automatically voids the guarantee terms, and can endanger the safety requirements defined under 93/42 EEC Norm, transferring full responsibility for safety and EEC mark compliance for the product on to those responsible for carrying out the operations described above.

DENTAL CARE SETTING: rules and recommendations

Besides complying with the requisites provided by local laws for health care facilities, the room should:
- be at least 2.50 m in length (optimal: 3.30 m) on its shorter side;
- have washable flooring capable of withstanding shocks and chemical agents, e.g. porcelain stoneware, with no gaps between the tiles and, if possible the surface where the walls and floor meet should be rounded to facilitate cleaning:
- have walls covered up to h. 2.00 m with washable materials resistant to chemical agents;
- have lighting provided by two ceiling fixtures with a double fluorescent tube, daytime light 5500°K, covered by alveolar grids, arranged longitudinally over the chair, so that the long sides are parallel;
- be free of non-sanitary curtains, upholstery, furniture and furnishing complements, ornamental plants.

Before installing the dental unit: the principal of the Surgery must verify that the plumbing for water supply and drainage, air supply lines, centralised suction lines (where applicable) and electrical system all meet requirements. He/she must provide for any necessary work to be done, following the instructions shown on the installation layout on a scale of 1:1 code F2210587 *(for ambidextrous model)*, code F2210B588 *(for right-hand model)*, which is supplied on request prior to installation, and the guidelines provided in the table "Conformity of Equipment, Environment and Supply Systems".

SETTING-UP PROCEDURES

Once the equipment is installed, the following operations must be performed before it may be used:
- Sterilization of instruments (see part "Operating Instruments").
- Sterilization or disinfection of all sterilizable parts supplied non-sterilized and disinfection of upholstery and any parts normally coming into contact with patients (see par. on cleaning, disinfection and sterilization).
- **Performance of a spray pipes disinfecting cycle with a contact time (TC) of 10 mins (cycle marked with the letter C) (see Autosteril and Time-Flushing paragraph).** (see section on Autosteril and Time-Flushing).
- Application of disposable protections where required.
- Check that the burrs and tips are securely fitted into the instruments (see part "Operating Instruments").

USING SAFELY: rules and recommendations

To ensure that the equipment is used safely, the user must abide by the set standards of hygiene and professional diligence.
The following points should also be kept in mind:
- ***during use:*** dust and fragments of material from the patient's mouth or the device being used may be thrust into the surrounding environment (organic and inorganic particles, metal dust, liquids, potentially infected fluids and biological materials):

Personnel must duly protect their eyes, breathing passages, mouth and skin
by wearing safety glasses, face shields, masks and disposable gloves.
Operate the suction system at high speed in all operations likely to result in a discharge of materials, dust and aerosols to minimise their dissemination.
- During use, materials and microorganisms coming from a patient may penetrate into the waterlines and be expelled into the next patient and into the environment. The passive systems of protection installed in this equipment (No-retraction system, Barrier Effect, etc.) minimise the risk but cannot eliminate it completely:
  We recommend performing a spray pipes disinfecting cycle with a contact time (TC) of 10 min (cycle marked with letter C in the Autosteril and Time-Flushing paragraph) at the start of each working day and after use on each patient.
- the instruments have exposed tips and sharp parts (burrs and other rotating instrument attachments, scaler tips etc.): take care to **avoid accidental cuts and punctures;**
- ***after use:*** **Remove** the aforesaid parts from the instruments;
  Do not leave sharp and/or pointed parts mounted on the equipment when it is left unattended;
  It is mandatory to sterilize the cord-attached instruments or their removable invasive parts, after washing and disinfecting the surfaces (see specific instructions). Sterilization must take place in a steam autoclave at 135°C, 2.1 bars (sterilization requisites also prescribed by Italian Law, Health Minister's Decree of 28.09.1990, art. 4);
  It is mandatory to regularly carry out the sanitization procedures described in this manual in the paragraph on "cleaning, disinfection, sterilization";
- it is not advisable to use drinking water to supply the dental unit since it may lead to the formation of a biofilm in the waterlines and thus facilitate germ proliferation inside the unit itself.
  It is recommended to supply the unit exclusively with dedicated liquids (Isotonic Saline Solution or It.Ph. Purified Water) using the Separate Supply system.

You are hereby informed that:
The Principal of the Dental Surgery is responsible for ensuring that the equipment, environment and water supply comply with the basic requisites shown in the table below:

TABLE OF CONFORMITY OF EQUIPMENT, Environment, Water Supply

ITEM	ESSENTIAL REQUIREMENTS
❑ Premises	a) protected from risk of explosion, non pressurized b) temperature between 10 °C and 40 °C c) Relative humidity between 30 % and 75 % d) Air pressure between 700 hPa and 1060 hPa (700 ÷ 1060 mbar)
❑ Electrical installation	a) compliance with regulations concerning electrical installations in premises used for medical purposes. All power and water supply installations must comply with the country legal provisions. b) Single-phase mains current, 220/240 V ± 10% - 50/60 Hz ± 10 % frequency
❑ Electrical power supply	Adequate for power requirements, as specified on the appliance's rating information plate Single-phase power 220/240 V - 50/60 Hz Maximum allowed variation on electrical power supply: ± 10 %. Max absorbed power 1,45 kVA The unit is fitted with a terminal board for connection to a permanent power supply system. Upstream from the unit have to be installed a differential, bipolar switch for at least 16 A - 250 V with differential operating time current IΔN = 0,03 A The electrical wiring of the room and the heart connection must comply with the current regulations. The addition of an air-compressor will require a power supply and safety fuse that must be independent from the unit.
❑ Water supply	Compliance with the country's legal provisions on drinking water
❑ Water treatment plant	Compliance with the country's legal provisions on drinking water
❑ Water supply	Drinking water for domestic use, duly filtered and decalcified, for mouth rinse cup and cuspidor a) hardness: 15 -20 °F (French degrees) b) pressure: 300 -500 kPa (3 -5 bars) c) flow: ≥ 3 l/min at 450 kPa (4.5 bars) Should the pressure be lower than 300 kPa (3 bars), install a device upstream from the dental unit to ensure the necessary pressure (autoclave). Should the pressure exceed 500 kPa (5 bars), install a suitable pressure-reducing device upstream from the dental unit. The water supply line must be fitted with an isolating valve. **N.B.:** To avoid the risk of contaminating the water supply as a result of the possible backflow of liquid from the dental unit, after irrigating tips have come into contact with the patient or chemical agents, instruments may be supplied **using ONLY** one of the following systems: 1 - Solely with liquid contained in the separate tank installed in the dental unit; the separate supply system option must always be selected (see section on "Separate supply system" in the user instructions). 2 - With mains water, after a dental water supply system conforming to standard CEI EN 1717 has been installed upstream from the dental unit to guarantee the physical separation of mains water and instrument sprays (e.g. "WEK" Metasys or equivalent). Before the mounting of the unit: **WE PRESCRIBE TO** clean thoroughly all pipes to prevent impurities from fouling the unit's water/air circuits, and to bleed extensively the water supply pipe so that no air bubbles remain in the system.
❑ Compressed air plant	The compressor must be installed in a well ventilated room and not in close proximity of heat sources or exhaust air from the vacuum system.
❑ Compressed air supply	a) Compressed air pressure between 550 kPa and 700 kPa (5,5 ÷ 7 bar) b) Capacity in excess of or equal to 50 1/min at 400 kPa (4 bar) c) Dew point: less or equal to 10 °C The compressor air supply line must be fitted with an isolating valve.
❑ Vacuum system	The pipework system must be installed if you intend connecting the unit to a centralized suction system. For a single dental unit it is sufficient to connect the aspirator to the unit through the appropriate tube supplied. The vacuum suction system must discharge the exhaust air outside to atmosphere. Air flow rate 300 l/min. Vacuum value 10 kPa (0,1 bar)
❑ Waste water line	We recommend a waste line slope of 1 cm for each metre of distance from the unit to the main waste. A "p" trap must be installed on the drain line outside the unit.

MAINTENANCE AND REVISIONS

The dental patient chair, dental unit (including all the tools and devices connected to it, with the exception of high speed drills), operating lamp, x-ray equipment, compressor and any other device manufactured by Castellini S.p.A. that forms an independent unit must undergo the scheduled annual maintenance operations (except where otherwise indicated in the part on "Scheduled Maintenance Operations" in this Manual) by technicians carrying a valid Castellini identification card, 365 days after installation, regardless of whether they have actually been used or not.
High speed drills manufactured by Castellini S.p.A. must undergo the scheduled annual maintenance operations performed by qualified technicians authorised by Castellini (except where otherwise stated in the part on "Scheduled Maintenance Operations" in this Manual).
The owner of the equipment is responsible for booking the services of the Castellini technician at all times.
The high speed drill must be returned to Castellini S.p.A. three years after installation to be reconditioned at the manufacturing plant.
Subsequently, high speed drills should be reconditioned every three years, in addition to undergoing the above described scheduled annual maintenance operations.

CIRCUIT DIAGRAM, LISTS OF COMPONENTS, CALIBRATION INSTRUCTIONS

Castellini S.p.A. undertakes to provide on request circuit diagrams, lists of components, calibration instructions or any other information that may be required by qualified technicians authorized by Castellini and in possession of a valid professional licence to repair those parts of the equipment that may be repaired.
Castellini S.p.A. reserves the right to modify the products at any moment without notice.

ATTENTION

- This unit complies with the EMC 89/336 EEC Directive, according with the CEI EN 60601-1-2 Standard. During the working, this unit will not cause radio interference to the electric network (*).

(*) See chapter : "INFORMATIONS ABOUT CONFORMITY BY "DUO" DENTAL EQUIPMENT AT CEI EN 60601-1-2 NORMS - 2001 EDITION".

SCRAPPING

If scrapped, the equipment must be disposed of in accordance with the provisions of applicable legislation.
The materials used to construct the equipment do not constitute a hazard for humans or animals in the event of contact or exposure.
For disposal of the amalgam separator (if present), strictly follow the instructions and warnings given in the section "ACCESS TO AMALGAM SEPARATOR".

INFORMATIONS ABOUT CONFORMITY BY "DUO" DENTAL EQUIPMENT AT CEI EN 60601-1-2 NORMS - 2001 EDITION

Annex A

The "**DUO"** dental equipment is suitable for use in the specified electromagnetic enviroment. The purchaser or user of the "**DUO"** dental equipment should assure that it is used in an electromagnetic enviroment as described below:

Emission test	Compliance	Electromagnetic Enviroment
Radiated and conducted RF emission	Class B	This "**DUO"** dental equipment is suitable for use in domestic establishments directly connected to the low voltage power supply network which supplies buildings used for domestic purposes.
CISPR 11	Group 1	This "**DUO"** dental equipment uses RF energy only for its internal function. Therefore, the RF emission is very low and not likely to cause any interference in nearby electronic equipment.
Harmonic emissions	Complies	The "**DUO"** dental equipment is suitable for use in establishments directly connected to a public low voltage power supply network.
Voltage fluctuations/ flicker emissions CEI EN 61000-3-3	Complies	The "**DUO"** dental equipment is suitable for use in establishments directly connected to a public low voltage power supply network.

Annex B

The "**DUO"** dental equipment is suitable for use in the specified electromagnetic enviroment. The purchaser or user of the "**DUO"** dental equipment should assure that it is used in an electromagnetic enviroment as described below:

Immunity Test	EN 60601-1-2 Test level	Compliance level	Electromagnetic Enviroment
Electrostatic discharge (ESD) CEI EN 61000-4-2	6 kV contact 8 kV air	CEI EN 60601-2 Test level	Residential
Radiated RF CEI EN 61000-4-3	Non-life-supporting Equipment 3 V/m 80 MHz to 2,5 GHz	CEI EN 60601-1-2 Test level	Residential
Conducted Rf CEI EN 61000-4-6	Non-life-supporting equipment 3 V 150 kHz to 80 Mhz	CEI EN 60601-1-2 Test level	
Electrical fast transient/burst CEI EN 61000-4-4	2 kV for power supply lines 1 kV for input/output lines > 3 m	CEI EN 60601-1-2 Test level	Residential
Surge CEI EN 61000-4-5	1 kV differential mode 2 kV common mode	CEI EN 60601-1-2 Test level	Residential

(see next →)

Voltage dips, short interruptions and voltage variations on power supply input lines CEI EN 61000-4-11	0% U_n for 0,5 cycles 40% U_n for 5 cycles 70% U_n for 25 cycles 0% U_n for 5 s	CEI EN 60601-1-2 Test level	Residential
Power frequency (50/60 Hz) magnetic field CEI EN 61000-4-8	3 A/m	CEI EN 60601-1-2 Test level	Residential

Annex C

Recommended Separation Distance for non-LIFE SUPPORTING EQUIPMENT

RF Source	Typical Rated Power (W)	Distance (m)
microcellular phone CT1, CT2, CT3	0,01	0,4
DECT cellular phone, wireless information technology equipment (modems, LANs)	0,25	2
cellular phone, hand-held (USA)	0,6	3
cellular phone, hand-held (e.g. GSM and NMT, EUROPE; DECS 1800)	2 8	6 11
walkie-talkie (rescue, police, fire, maintenance)	5	9
cellular phone, bag	16	16
mobile radio (rescue, police, fire)	100	40

For transmitter using frequencies below 800 MHz, the DISTANCE can be estimated using Equation A:

$$d = 4\sqrt{P}$$

For transmitters using frequencies between 800 MHz and 2,5 GHz, the DISTANCE can be estimated using Equation B:

$$d = 2.3\sqrt{P}$$

where P is the rated power of the trasmitter in watt (W) according to the transmitter manufacturer.

TECHNICAL DATA EQUIPMENT

UNIT

MEDICAL DEVICE CLASS IIb By 93/42 EEC DIRECTIVE
ELECTRO MEDICAL EQUIPMENT CLASS I - TYPE B By CEI EN 60601-1 Standard
THE EQUIPMENT CANNOT BE USED WHEN FLAMMABLE ANESTHETIC MIXTURES CONTAINING AIR OR OXIGEN OR NITROUS OXIDE ARE PRESENT

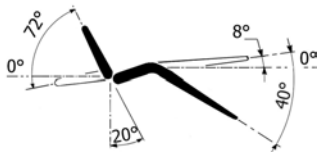
DEGREE OF PROTECTION AGAINST WATER INFILTRATION:	**IPX0**
POWER SUPPLY	
MAXIMUM POWER INPUT (Unit+chair+suction system working together)	1450 VA
MAINS VOLTAGE	230 V~
SINGLE-PHASE A.C AT	50 Hz
INTERMITTENT OPERATION (Refer to the use specifications)	
WATER SUPPLY (See note in "TABLE OF EQUIPMENT CONFORMITY)	DRINKING WATER
PRESSURE	300 ÷ 500 kPa (3 ÷ 5 bar)
MAXIMUM CONSUMPTION	3 l/min at 450 kPa (4.5 bar)

Should the pressure be lower than 300 kPa (3 bars), install a device upstream from the dental unit to ensure the necessary pressure (autoclave).
Should the pressure exceed 500 kPa (5 bars), install a suitable pressure-reducing device upstream from the dental unit.
The water inlet MUST BE fitted with a cut-off valve.

AIR SUPPLY	
PRESSURE	550 ÷ 700 kPa (5,5 ÷ 7 bar)
CONSUMPTION	50 l/min at 400 kPa (4 bar)
VACUUM	
AIR FLOW RATE	≥300 l/min
VACUUM VALUE	≤ 10 kPa (0.1 bar)
UNIT WEIGHT	110 kg
UNIT + MOTOR CHAIR WEIGHT	245 kg
UNIT + OPERATING LIGHT + MOTOR CHAIR WEIGHT	258 kg
ADDITIONAL WEIGHT ON THE INSTRUMENT TRAY OF THE DENTAL UNIT (with self-balancing of the arm):	**1 kg**
MAXIMUM ADDITIONAL WEIGHT ON THE INSTRUMENT TRAY OF THE DENTAL UNIT (w/o self-balancing of the arm):	**2 kg**

"DAMA" MOTOR CHAIR

MEDICAL DEVICE CLASS I - By 93/42 EEC DIRECTIVE
ELECTRO MEDICAL EQUIPMENT CLASS I TYPE B - By CEI EN 60601-1 Standard
THE EQUIPMENT CANNOT BE USED WHEN FLAMMABLE ANESTHETIC MIXTURES CONTAINING AIR OR OXIGEN OR NITROUS OXIDE ARE PRESENT

POWER SUPPLY VOLTAGE		230 V~
SINGLE-PHASE A.C. at		50/60 Hz
POWER OF OPERATION COMMAND		24 V
INTERMITTENT OPERATION		1 min of work 14 min of rest
WHOLE WEIGHT		135 kg
HEIGHT FROM THE POINT OF SEAT	**"DAMA" for "DUO"** *right-hand version* min 36 cm max 79 cm	**"DAMA" for "DUO"** *ambidextrous version* min 41 cm max 84 cm
BACKREST HEIGHT FROM THE FLOOR	**"DAMA" for "DUO"** *right-hand version* min 37 cm max 80 cm	**"DAMA" for "DUO"** *ambidextrous version* min 42 cm max 85 cm
MAX. INCLINATION		
MAX LIFTING CAPABILITY		300 kg

UNIT IDENTIFICATION LABEL

UNIT

CE 0086

Mark of Conformity to 93/42 ECC Directive "MEDICAL DEVICE", equipped by correspondent number to the NOTIFIED ORGANIZATION (BSI - Notified Body number), authorized to issue the Conformity Certificate.

IDENTIFICATION LABEL

2005 **year of production (UNI EN 980)**

SYMBOL CORRESPONDING TO PART APPLIED TYPE B as per CEI EN 60601-1:
It indicates the degree of protection against direct and indirect contacts.

SN

SERIAL NUMBER OF THE UNIT (UNI EN 980)
Through this number may be recognized the year and the month of production. The first two pictures indicate the year other one letter indicated the month of production (for example 05A = January 05).

TYPE — **COMMERCIAL DENOMINATION OF THE UNIT**

V — **CONNECTION VOLTAGE TO THE MAINS**

~ — **ALTERNATE CURRENT**

Hz — **MAINS FREQUENCY IN HERTZ**

kVA — **MAXIMUM POWER IN KILOVOLTAMPERE ABSORBED FROM THE UNIT**

Symbol to draw attention about further information written on "USE AND MAINTENANCE HANDBOOK"

CONTINUOUS OPERATION DUTY-TYPE OF PARTS SPECIFIED
(according to the following user instructions):

- TURBINE AND SCALER	20 min work 10 min rest	
	type "IMPLANTOR STERIL"	**type "IMPLANTOR 2LF"**
- MICROMOTORS	5 min work 20 min rest	5 min work 25 min rest
- SYRINGE	10 s work 5 min rest	
	type "LEDA"	**type "POLYLIGHT STERIL 3"**
- POLYMERIZING LIGHTS	60 s work 13 s rest	60 s work 60 min rest
- ELECTROSURGERY	15 s work 30 s rest	
- ASPIRATOR *(with working tips)*	10 min work 20 min rest	
"DAMA" chair	1 min work 14 min rest	

Symbol released from RAEE Directive (Dir. 2002/96/CE) signed applicable legislation of the country.

It indicate that, when the equipment will be scrapped, it will be destroied in differential way, according to the overwrite Directive.

ELECTROSURGERY

CEI EN 60601-2-2

MARKING of the ITALIAN INSTITUTE FOR QUALITY MARKING. The marking certifies compliance with CEI EN 60601-2-2 standards (SPECIAL SAFETY STANDARDS FOR HIGH FREQUENCY ELECTROSURGERY EQUIPMENT).

CORRESPONDENT SYMBOL FOR EQUIPMENT TYPE BF.
(By CEI EN 60601-1 Norms)

POWER OUTPUT NOMINAL POWER (WATT)

LOAD LOAD RESISTANCE CORRISPONDENT TO THE INDICATED POWER

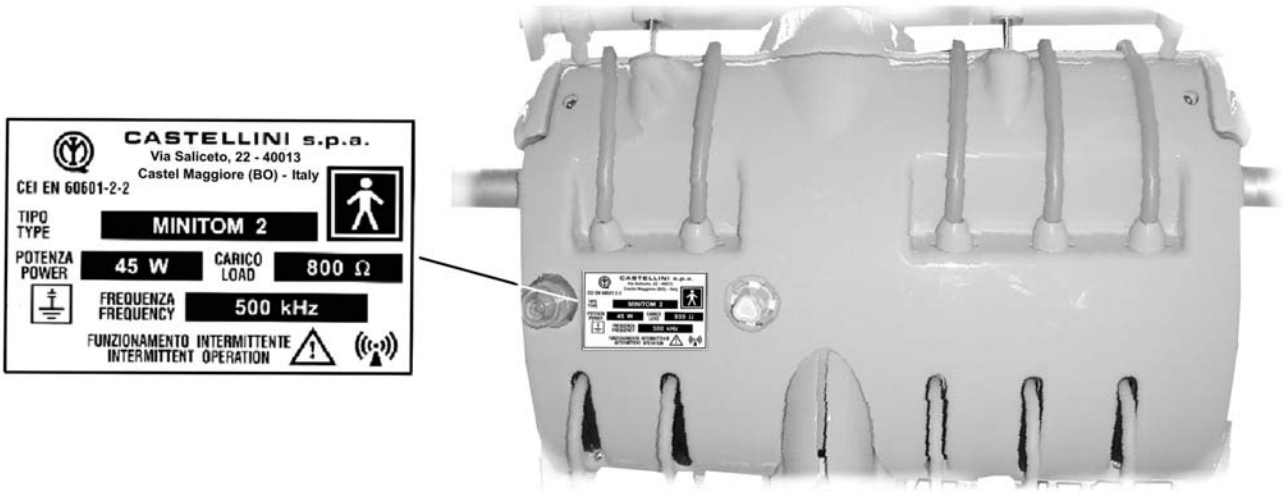
FREQUENCY NOMINAL FREQUENCY VALUE (MEGAHERTZ)

SYMBOL to indicate that the **HIGH FREQUENCY** part is refered by earth.

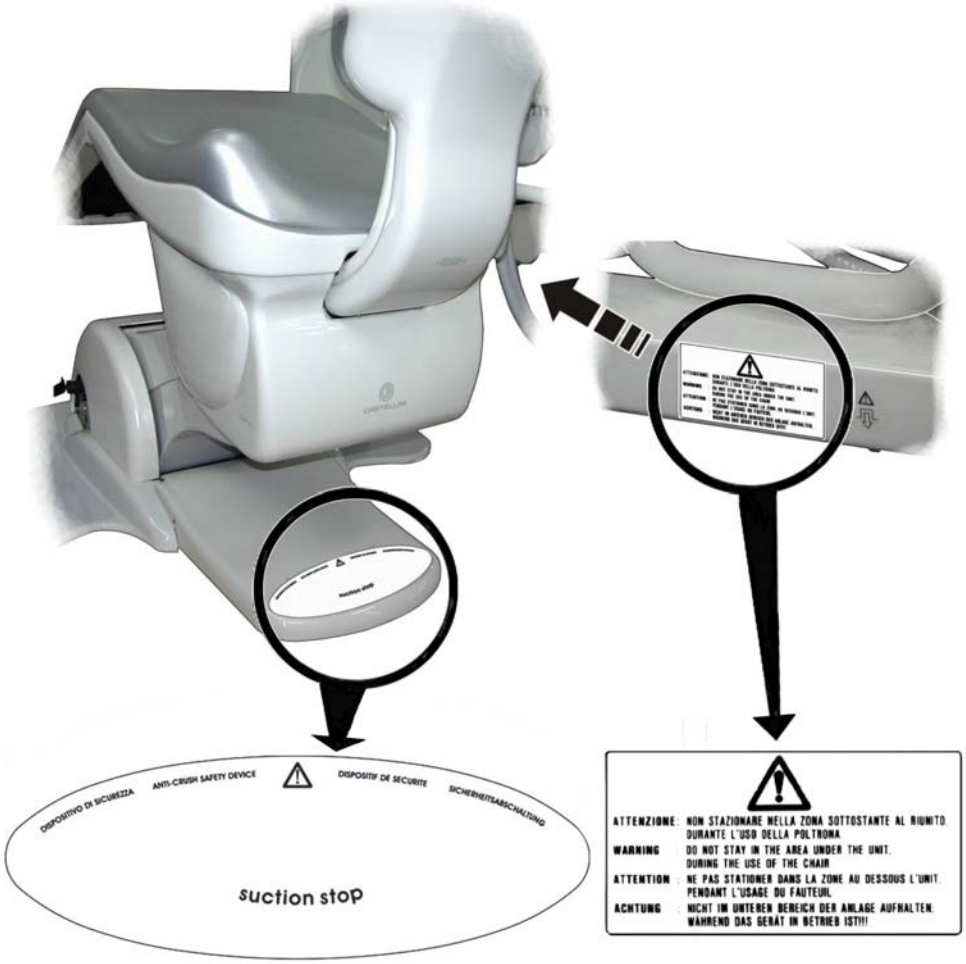
INTERM. OPERATION INTERMITTENT OPERATION (Refer to the use specifications)
15 s of work
30 s of rest

SYMBOL indicating the emission of non ionogenic radiation during operation of the equipment.

WARNING!: ELECTROSURGERY LABEL IS PLACED ON THE LOWER PART OF THE HOLDER INSTRUMENTS TABLE, NEAR THE PLUG FOR THE NEUTRAL ELECTRODE CONNECTION.



Position of electrosurgery technical data label


DISPOSITIVO DI SICUREZZA
ANTI-CRUSH SAFETY DEVICE
DISPOSITIF DE SECURITE
SICHERHEITSABSCHALTUNG
suction stop
ATTENZIONE: NON STAZIONARE NELLA ZONA SOTTOSTANTE AL RIUNITO DURANTE L'USO DELLA POLTRONA
WARNING : DO NOT STAY IN THE AREA UNDER THE UNIT, DURING THE USE OF THE CHAIR
ATTENTION : NE PAS STATIONNER DANS LA ZONE AU DESSOUS L'UNIT, PENDANT L'USAGE DU FAUTEUIL
ACHTUNG : NICHT IM UNTEREN BEREICH DER ANLAGE AUFHALTEN; WAHREND DAS GERÄT IN BETRIEB IST!!!

Chair anti-crush safety system/ Suction Stop device

Warnings for chair lowering

ATTENZIONE: **DISPOSITIVO DI SICUREZZA ANTI-SCHIACCIAMENTO**

WARNING: **ANTI-CRUSH SAFETY DEVICE**

ATTENTION: **DISPOSITIF DE SECURITE ANTI-ECRASEMENT**

ACHTUNG: **SICHERHEITSABSCHALTUNG**

ATENCION: **DISPOSITIVO DE SEGURIDAD ANTIATRAPE**

ATTENTIE: **VERPLETTERINGSBEVEILIGING**

If the chair meets with an obstacle while being lowered, the pressure on the base plate will trigger the automatic safety system: the downward movement will stop immediately and the chair will rise a few centimetres to free the obstacle.
Another automatic stop system controls the backrest lowering function.
When the chair is stationary, pressing on the base plate will activate the dental unit suction stop device.
The assistant's tray is also fitted with an anti-crush safety feature.
If the chair backrest interferes with the handle of the aforesaid tray as it returns to an upright position, the chair must stop immediately and lower itself a few centimetres.

ATTENZIONE: **NON STAZIONARE NELLA ZONA SOTTOSTANTE IL RIUNITO,** durante l'uso della potrona

WARNING: **DO NOT STAY IN THE AREA UNDER THE UNIT,** during the use of the chair.

ATTENTION: **NE PAS STATIONER DANS LA ZONE AU DESSOUS L'UNIT,** pendant l'usage du fauteuil

ACHTUNG: **KEINE GEGENSTÄNDE UNTER DIE ANLAGE STELLEN** während der Behandlungsstuhl arbeitet.

ATENCION: **NO COLOCAR NINGUN OBJETO DEBAJO DEL EQUIPO** durante el funcionamiento del sillón

ATTENTIE: **BEGEEF U NIET ONDER DE BEHANDELUNIT,** als de stoel in gebruik is.

MEDICAL DEVICES APPLIES TO THE UNIT

The dental units "DUO" may be completed with the following devices:
- "DAMA" dental CHAIR and derived models with zero control or with working programme (only on request):
- "LUNA" operating light.
- SURGICAL SUCTION single-surgery UNIJET model or, alternatively, setup for centralized suction systems:
  - Centralised liquid ring suction system;
  - Centralised air type "C" suction system;
  - Centralised suction system with "METASYS COMPACT DYNAMIC" or "DÜRR COMBI CAS 1" type amalgam separator device;
- Suction cannulas: bearing EC mark of conformity with Dir. 93/42 EEC, sterilizable or disposable
  rigid mist cannula with 15.7 - 16.2 mm-diameter connector
  rigid blood/saliva ejector cannula with 10.7 - 11 mm-diameter connector
  flexible blood/saliva ejector cannula with 6.0 - 6.5 mm-diameter connection
- "ASSISTANT'S TRAY" unit from 4-WAY, including one of the following supplementary instruments, plus 2 suction tubes:
  - 2 suction canulas;
  - 1 syringe model THREESTERIL or MULTISTERIL *(alternative options)*;
  - Curing lamp "LEDA" model.
  - Curing lamp "POLYLIGHT STERIL 3" model *(alternative options)*.
- DENTIST TABLE with the following instruments (max. 5):

- ELECTROSURGERY model	MINITOM 2:	
- ABLATOR handpiece model	PIEZOSTERIL 5; PIEZOLIGHT 5	 (alternatively);
- SYRINGE model	MULTISTERIL 2 TITANIUM F; MULTISTERIL 2 MULTISTERIL 2L	 (alternatively) (alternatively)
- ELECTRIC MICROMOTOR model	IMPLANTOR STERIL IMPLANTOR LF STERIL IMPLANTOR 2LF	 (alternatively) (alternatively)
*- CAMERA FOR DENTAL INSPECTIONS model:	VIDEORCAM	*(subject to request);*
- TURBINE model	CLEANAIR 2000, CLEANLIGHT 2000 HI-POWER 2 CERAMIC TITANIUM GOLD 2 TITANIUM GOLD 2 MINIATURE	 (alternatively) (alternatively), (alternatively) (alternatively)

CASTELLINI firm doesn't authorize the application of other devices unnamed in this list.

***** See "VIDEOR" user manual.

UNIT OPERATION

MAIN SWITCH

The unit is provided with a combined main switch, positioned in the lower part of the chair (Pict. 4 - part. **4.1**), which activates or disactivates au together (position **I** or position **0** of the lever) the electric supply, the water supply and the compressed air supply, which are all necessary to operate the wait.

WE RECOMMEND turning off the aforesaid main switch each day, before switching off for the night and before breaks lasting a few hours or more. WE RECOMMEND turning off the main switch before each technical repair or maintenance that requires the access to the inner parts of the units protected by covers.

The Castellini S.p.A. Company is not responsible for any damages to person or things, caused by the failure to performe the operation above described.

CONTROLS

The controls panel on the doctor's table has direct controls described in pictures 2B. The controls panel on the assistant's table has direct controls described in pictures 3B. The controls panel for AUTOSTERIL/TIME FLUSHING/S.H.D. System has direct controls described in pictures 7. The foot controls are described on the pages: "FOOT CONTROLS FUNCTIONS", other controls are indicated at the Cpt. "FOOT CONTROL FUNCTIONS"

OPERATIVE INSTRUMENTS

The operative instruments must be activated through the foot control (see "FOOT PEDAL FUNCTIONS").

All op. instrum. fonctionning parameters are visualized on LCD display on the doctor's control panel (see Cpt. "OP. INSTRUMENTS MENU"

WARNING:

- Before activate the op. instrum. by foot, it's necessary to verify that the Menu visualized on the display, is in conformity with the used handpiece

- The mouvements of the instruments table,of the assistant table, and of the light must bedone using the handles on the tables and on the light

PICTURES AND DESCRIPTIONS

"DUO" Unit with Dentist table S.P.R.I.D.O. (Pict. 1)

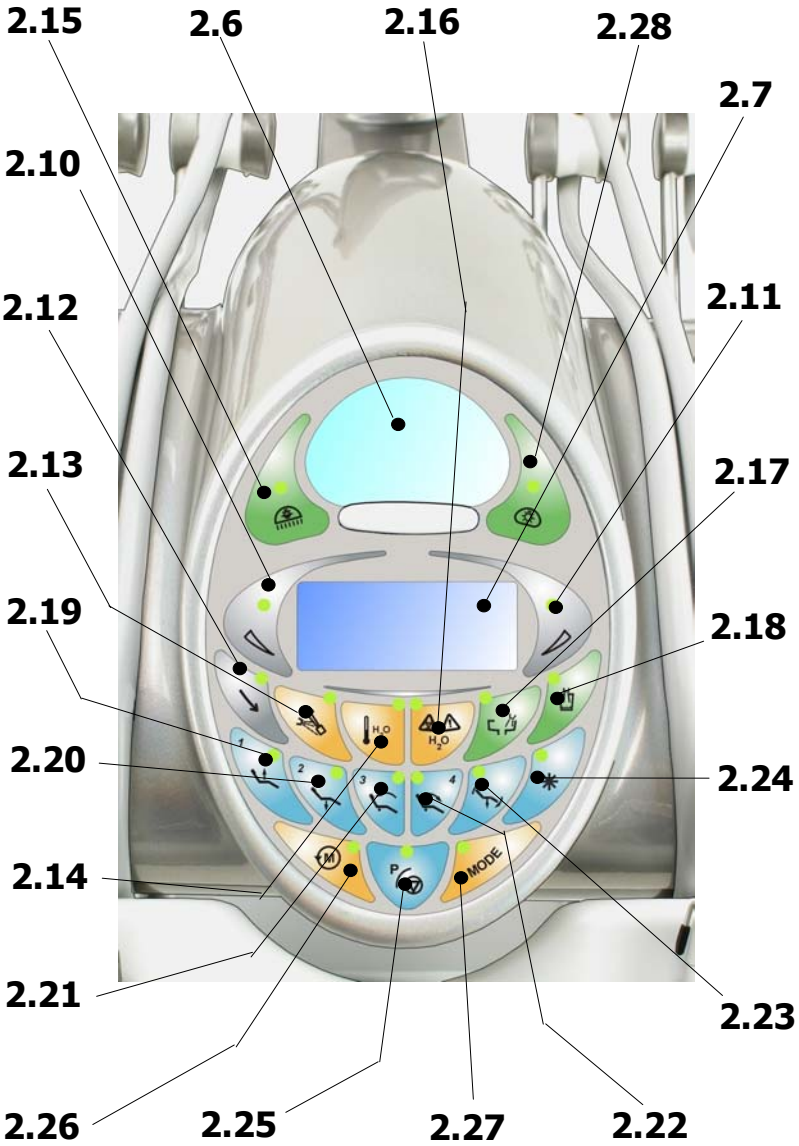
Pict. 1 – *"DUO" unit (ambidextrous version) + "DAMA" chair*

1 - ELECTRIC FOOT CONTROL.
1.1 - Chair movement/ instrument function selection control.
1.4 - Air spray and chip air to instruments on /memorised chair position recall control.
1.5 - Instruments/operating lamp on control.
2 - DENTIST'S TABLE.
3 - ASSISTANT'S TABLE.
3.9 - Base plate controlling the anti-crush safety system and "SUCTION STOP" system
4 - WATER UNIT.
4.1 - Spout for water to cuspidor.
4.2 - Cup filler.
4.3 - Controls for AUTOSTERIL/S.H.D. system.
5 - "LUNA" OPERATING LAMP.

Dentist's table and controls panel **(Picts. 2A and 2B)**

Pict. 2A – *Dentist?s table*

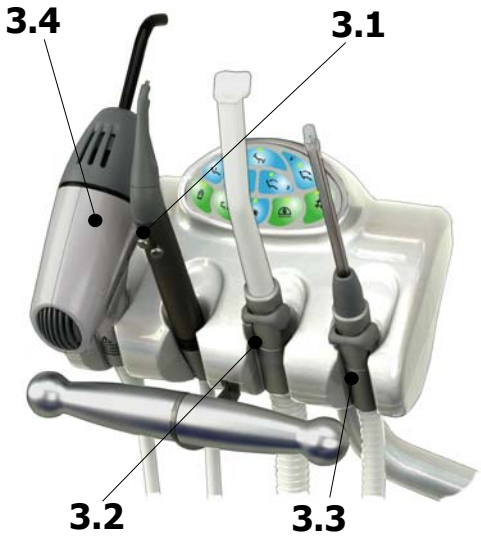
2.1 - Scaler handpiece.
2.2 - Syringe.
2.3 - Turbine.
2.4 - Micromotor.
2.5 - Additional turbine.
2.6 - X-Ray viewer.
2.7 - LCD display.
2.10 - Control for adjusting displayed parameters to lower settings.
2.11 - Control for adjusting displayed parameters to higher settings.
2.12 - Cursor control for displaying parameters.



Pict. 2B – *Controls panel*

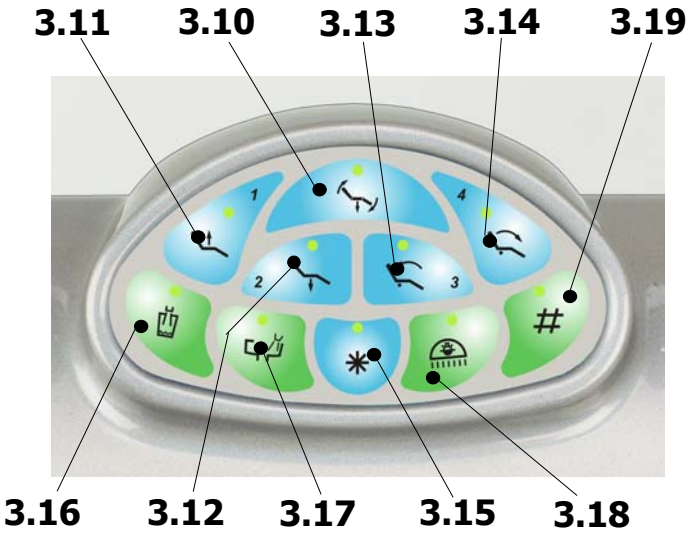
2.13 - Instrument spray supply selection control.
2.14 - Control for turning on the heater to supply warm water to the cup and syringe.
2.15 - Operating light control.
2.16 - Control for enabling separate supply to instrument sprays.
2.17 - Control for water to bowl.
2.18 - Control for water to glass.
2.19 - Chair up control / Position 1 recall control.
2.20 - Chair down control / Position 2 recall control.
2.21 - Backrest down control / Position 3 recall control.
2.22 - Backrest up control / Position 4 recall control.
2.23 - Automatic reset direct control.
2.24 - Rinse position recall direct control.
2.25 - Stop all chair movements/recall memorised chair positions.
2.26 - Electric micromotor reverse-speed control.
2.27 - Chair programming menu and language menu access control (instruments on stand-by)/instrument function mode.
2.28 - X-ray viewer lighting control.

Assistant's table and controls panel **(Picts. 3A and 3B)**



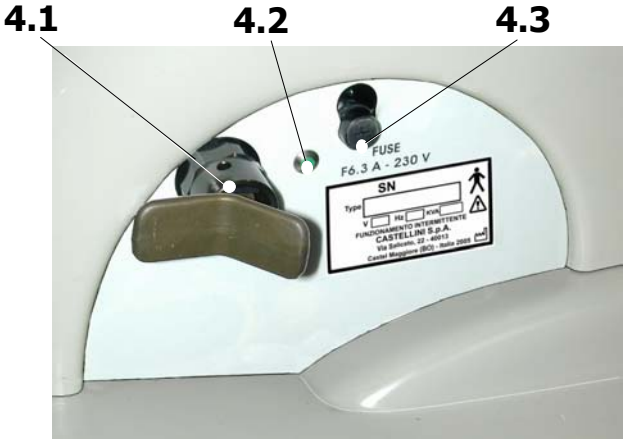
Pict. 3A – *Assistant's table*

3.1 - Additional syringe *(only if required)*.
3.2 - Large aspiration typ.
3.3 - Small aspiration typ.
3.4 - Polymerizing light handpiece *(only if required)*.



Pict. 3B – *Assistant's table controls panel*

3.10 - Automatic reset direct control.
3.11 - Chair up control.
3.12 - Chair down control.
3.13 - Backrest down control.
3.14 - Backrest up control.
3.15 - Rinse position recall direct control.
3.16 - Control for water to glass.
3.17 - Control for water to bowl.
3.18 - Operating lamp control.
3.19 - Assistant call button.

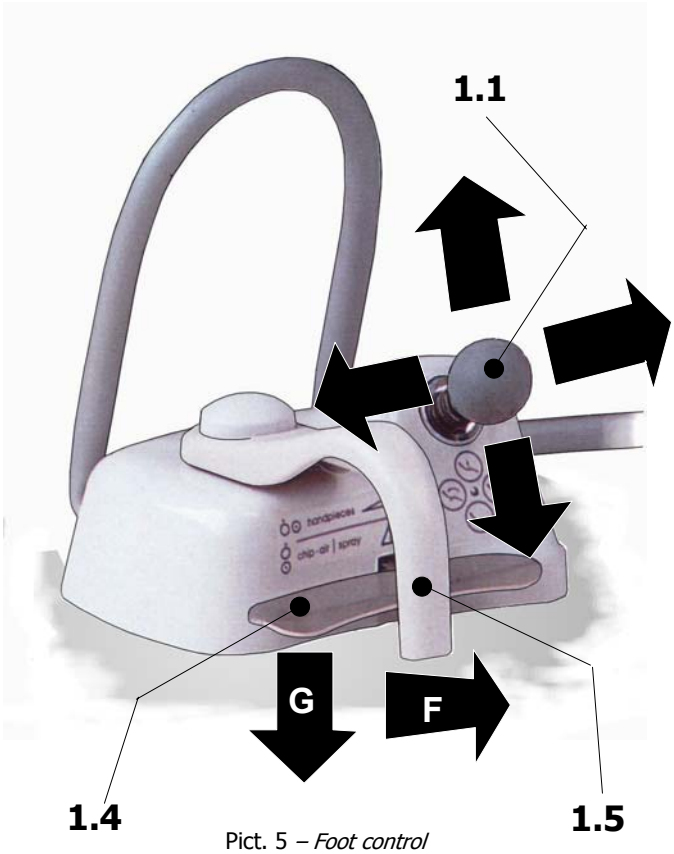


Pict. 4 – *Connection box*

Connection box **(Pict. 4)**

4.1 - Main switch.
4.2 - ON lamp.
4.3 - F 6.3 A - 230 V power supply line fuse.

FOOT CONTROL FUNCTIONS (Pict. 5)



Pict. 5 – *Foot control*

CHAIR CONTROLS

Move the lever control (**1.1**) in the direction marked with **C** in the figure **to lift** the chair seat and in the opposite direction **to lower** it.
Turn the control knob (**1.1**) in the direction marked with **A** to lower the back and in the opposite direction, marked with **B**, to return to its upright position.
Pressing the lever (**1.4**) in the direction indicated by **G,** with the instruments at rest, and subsequently moving the control (**1.1**) in one of the 4 directions shown, will call up one of the 4 memorised work programs
The reset position can be recalled by pressing the lever (**1.4**) in the direction marked **G**, with instruments on stand-by, and subsequently turning the lever (**1.5**) in direction F to the end of its stroke.

INSTRUMENTATION CONTROLS

By extracting an instrument from the handpiece holder on the tray and rotating the lever (**1.5**) in the direction marked **F**, one obtains the following functions:
- Activation and adjustment of the turbine or air-powered or electric micromotor speed;
- Activation and variation of the power of the scaler handpiece.

By pressing the lever (**1.4**) in the direction marked **G** and simultaneously turning the lever (**1.5**) one enables the handpiece spray function (only when the instrument has been extracted).
CASTELLINI recommends using the spray when using micromotors with turning speeds higher than 20,000 rpm.

- By pressing the lever (**1.4**) in the direction marked **G**, without moving the lever (**1.5**) one obtains either the CHIP-AIR effect (a blast of air is issued from the turbine or micromotor to clean the operating field), or the scaler handpiece full power feature (only when the instrument has been extracted).
- By moving the control (**1.1**) in direction **A** one enables/disables the electric micromotor turning direction inverter (only when the instrument has been extracted).
- By moving the control (**1.1**) in direction **B** one enables/disables the **ENDO** function for the IMPLANTOR 2LF *(Brushless)* micromotor and PIEZOSTERIL 5 scaler (only when the instrument has been extracted) (see corresponding appearance of the caption "ENDO" on the control panel display of the dentist's tray).

After the electrosurgical handpiece is extracted, pressing the lever (**1.4**) on its own will activate the handpiece according to the currently set parameters, as shown on the DISPLAY.

OPERATING LAMP CONTROL: with the chair and instruments on stand-by, by turning the lever (**1.5**) in direction **F** to the end of its stroke and holding it in position for approx. 1 second one enables/disables the work light.

Attention!: In the event of visible damage to the outer case of the foot control and/or control elements, do not use the equipment and contact the authorised service centre.

DENTIST'S INSTRUMENT TRAY CONTROL PANEL

Controls (**2.12**, **2.10**, **2.11** – pict. 2A) make it possible to vary the functions shown on the DISPLAY regardless of whether the unit is in STAND-BY (see FUNCTIONS THAT CAN BE ADJUSTED WITH UNIT IN STAND-BY chap.) or instruments are extracted (see INSTRUMENT MENU chap.).

The "cursor" control (**2.12**) selects the parameters that can be adjusted on the DISPLAY. The cursor moves upwards following an anticlockwise direction.

These controls (**2.10** e **2.11**) respectively decrease and increase the values of parameters.

FUNCTIONS THAT MAY BE ADJUSTED WITH DENTAL UNIT ON STAND-BY (Picts. a, b, c, d, e, and f)

- *FIRST DISPLAY PAGE and CONTRAST SELECTION* – (Picts. a and b)

Pict. a - *First display page*

Pict. b **-** *Contrast selection screen*

- Press the **MODE** control (**2.27**) once; the word **CONTRAST** will appear on the DISPLAY
- Press the control (**2.10**) repeatedly to increase the display contrast or control (**2.11**) to decrease the contrast. Note: **MIN. CONTR.** = 030; **MAX. CONTR. = 245**

- *SELECTING THE CHAIR OPERATING PROGRAM*

(See operating instrucions to the next page at the chapter "CHAIR MOVEMENTS")

- *LANGUAGE SELECTION MENU* – (Pict. c)

Pict. c - *Language selection screen*

- Press the **MODE** control (**2.27**) until the DISPLAY shows **LANGUAGE**
- Then press controls (**2.10** or **2.11**) to display the set language.

- *ADJUSTING OPERATING LAMP BRIGHTNESS* – (Pict. d)

Pict. d – *Operating lamp brightness adjustment screen*

- When operating lamp is switched off press the control (**2.15**) and push it until the DISPLAY shows **LAMP**
- Subsequently press the controls (**2.10** or **2.11**) to reduce or increase the brightness of the operating lamp.

- *ADJUSTING THE NEGATOSCOPE LIGHTING INTENSITY* – (Pict. e)

Pict. e – *X-Ray viewer light intensity regulation menu screen*

- When x-ray viewer is switched off press the control (**2.18**) and push it until the DISPLAY shows **NEGATOSCOPE**
- Then press controls (**2.10** or **2.11**) to decrease or to increase X-Ray viewer light intensity regulation.

CHAIR MOVEMENTS

DIRECT CONTROL MOVEMENTS

RAISE - LOWER CHAIR / RECLINE– UPRIGHT BACKREST

The movement controls (**2.19, 2.20, 2.21 and 2.22** - pict. 2B) control the chair raising and lowering and backrest reclining and return functions. The chair will continue moving as long as the pushbutton is pressed (pushbutton LED on) and will stop immediately on its release (LED off)

MEMORISING CHAIR WORK POSITIONS

The chair can memorise positions set by the User: rinse, reset and 4 work positions.

- Press the **MODE control** (**2.27**); until the caption **CHAIR PROGRAMMING** appears on the DISPLAY;

Pict. f – *Chair programming screen*

- Use the movement controls (**2.19, 2.20, 2.21 and 2.22**) to take the chair to the desired position;

- Then press control (**2.12**) *(all chair working positions leds will lights on)*

- Press the control you wish to associate to the chair position (**2.19, 2.20, 2.21 2.22, 2.23 or 2.24**).

To indicate that the position has been stored correctly the caption "OK" will appear for a few seconds.

RECALLING STORED POSITIONS

ATTENTION: before activating position recall, ensure that the assistant's tray does not interfere with the movements of the backrest.

WORK POSITIONS

- Press the Programme/STOP button (**2.25**) (LED on button lights).

- Within one second from pressing the Programme/STOP button press the button with the required position number (LED on button lights).

The chair adopts the memorised position (at the end of the movement the two LEDS switch off)

- Any chair control key stops all automatic movements in progress.

N.W.: Also pressing the foot control lever (see chapter "FUNCTION OF PEDAL BOARD"), will call up one of the 4 memorised work programs.

RESET

- By pressing the Reset button (**2.23** – pict. 2B) the memorised position is recalled (if the operating lamp is on it will switch off automatically).

The position allows patients to get in and out of the chair with greater ease.

- **Any chair control key stops the automatic movement in progress.**

N.B.: It is also possible to use the foot control to recall the reset position (see "FOOT CONTROL FUNCTIONS" paragraph).

RINSE

- Press the Rinse button (**2.24**) (LED on button lights). This function moves the backrest only. The movement stops when the memorised position is reached (the LED remains lit)

- By pressing the button again (**2.24**) the backrest returns to the position it was in prior to the rinse movement (when the chair reaches the initial position the Led switches off).

Any chair control key stops the automatic movement in progress.

SAFETY SYSTEMS: SELF-DIAGNOSIS AND AUTOMATIC LOCK

The chair is fitted with a self-diagnosis system for particular faults, with automatic lock and fault indication features.

When a key is pressed, if the self-diagnosis system detects a fault, the following error indications may appear:

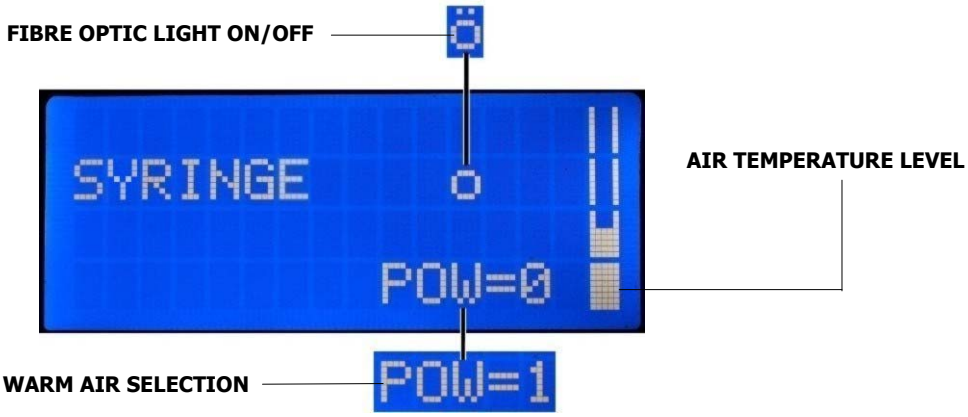
	INDICATION	***REASON***
1)	*All leds flash except **P/S** and **Mem**.*	*Ophthalmic lock switch enabled or instrument enabled*
2)	*Alternate flashing of backrest recline/upright leds*	*Assistant Tray handle switch enabled*
3)	*Simultaneous flashing of backrest recline/upright leds*	*Backrest safety switch enabled*
4)	*Simultaneous flashing of raise/lower leds*	*Chair safety switch enabled*
5)	*Raise led flashes if the raise key is pressed*	*Raise chair limit stop*
6)	*Lower led flashes if the lower key is pressed*	*Lower chair limit stop*
7)	*Recline led flashes if the recline key is pressed*	*Backrest recline limit stop*
8)	*Upright led flashes if the upright key is pressed*	*Backrest upright limit stop*

INSTRUMENTS MENU

The adjustable parameters of each instrument installed on the dentist's tray (excluding the instruments housed in the assistant's tray) can be called up on the DISPLAY and adjusted **only when the instrument is pulled out**.
The parameter shown in the lower right-hand corner (that used most frequently) can be modified directly by pressing the keys (**2.10** and **2.11**). To modify the other parameters they must be selected using the control (**2.12**).
The cursor on the LCD display, eventually moved by control (**2.12**), lights off after 10 seconds of working.
When the instruments are released in their seats, all parameter access and adjustment controls are memorized.

WE RECOMMEND ALWAYS CHECKING THE CAPTION ON THE DISPLAY BEFORE ACTIVATING INSTRUMENTS.

- *SYRINGE MENU* (Pict. g)



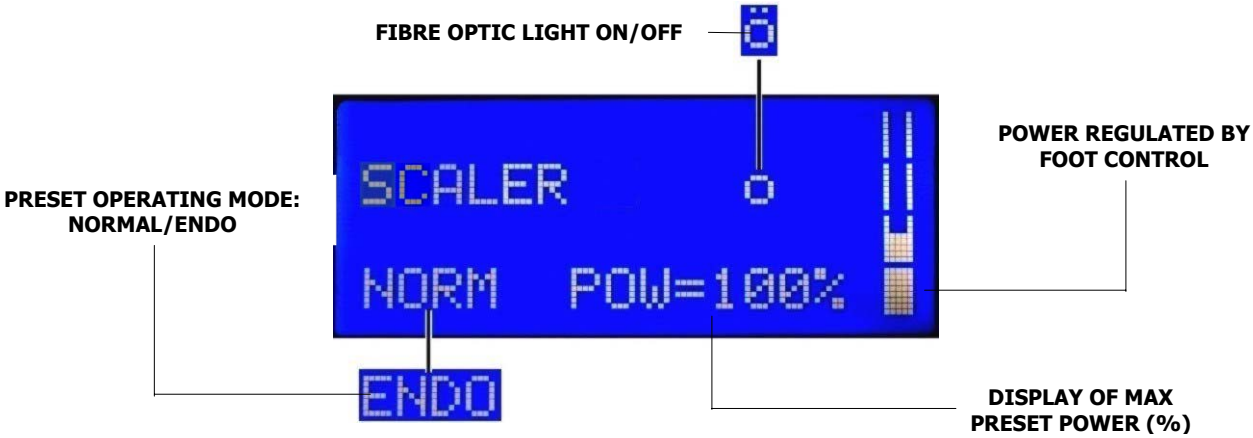
Pict. g – *Syringe menu screen*

- Press one of the controls (**2.10** and **2.11**) to select or deselect the function for delivering warm air to the handpiece. **POW = 0 (COLD SYRINGE); POW = 1 (WARM SYRINGE).**

SWITCHING THE FIBRE OPTIC LIGHT ON/OFF (enabled only for MULTISTERIL 2 TITANIUM L)

- Press the control (**2.12**) to move the cursor to (**O**).
- Press one of the controls (**2.10** and **2.11**) to switch on the light (**Ö**), press again to switch it off (**O**).

- *SCALER MENU* (Pict. h)



Pict. h - *Scaler menu screen*

PRESETTING THE POWER FROM 1 TO 100% (POW)

- Press one of the controls (**2.10** and **2.11**) to decrease or increase the preset power delivered to the handpiece. **MIN POW = 1%; MAX POW = 100%**

SWITCHING THE FIBRE OPTIC LIGHT ON/OFF (enabled only for PIEZOLIGHT STERIL)

- Press the control (**2.12**) to move the cursor to (**O**).
- Press the controls (**2.10** or **2.11**) to switch on the light (**Ö**), press again to switch it off (**O**).

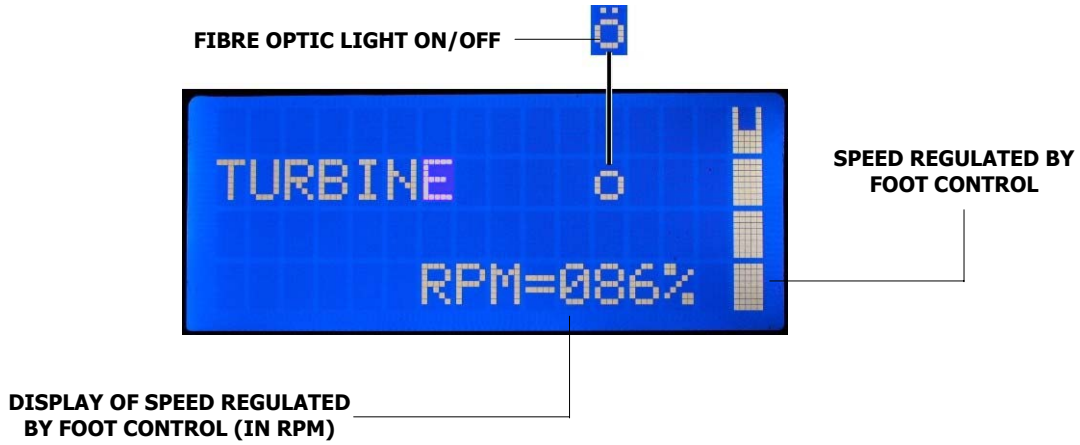
SELECTING THE PRESET OPERATING MODE (NORMAL/ENDO)

- Press the **MODE** control (**2.27**) to switch over between the **NORMAL** and **ENDO** modes **(NORM/ENDO)**

It's possible to obtain the same selection (only when the handpiece is pulled out) lifting the foot pedal control (**1.1**) in direction **B** (see chapt. "FUNCTION OF CONTROL BOARD" and the pict. 5).

La selezione della modalità **ENDO** comporta la riduzione al 50% della potenza massima e l'esclusione del liquido di raffreddamento al manipolo.

- *HIGH-SPEED HANDPIECE MENU* – (Pict. i)


FIBRE OPTIC LIGHT ON/OFF
TURBINE
RPM=086%
SPEED REGULATED BY FOOT CONTROL
DISPLAY OF SPEED REGULATED BY FOOT CONTROL (IN RPM)

Pict. i – *High-speed handpiece menu screen*

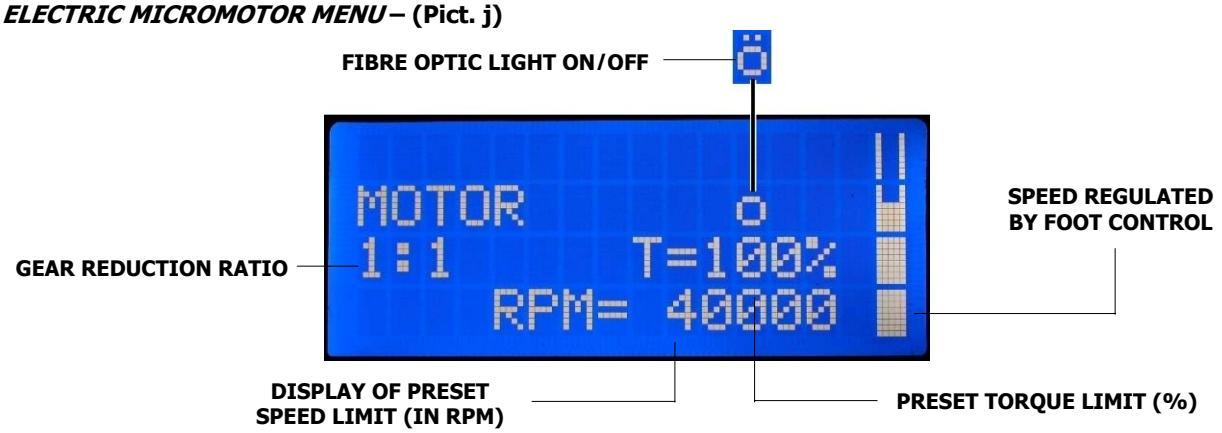
SWITCHING AIR SPRAY AIR TO HIGH SPEED MENU

- Press the control (**2.13**) to switch the airflow to the turbine spray on (with instrument extracted only); press it again to cut off the outlet of air from the handiece spray.

SWITCHING THE FIBRE OPTIC LIGHT ON/OFF *(only for instruments with fibre-optic)*

- Press the controls (**2.10** or **2.11**) to switch on the fibre-optic lighting (**Ö**), press again to switch it off (**O**)

- *ELECTRIC MICROMOTOR MENU* – (Pict. j)



Pict. j – *IMPLANTOR electric micromotor menu screen*

PRESETTING THE MAX SPEED FROM 200 TO 40,000 RPM

- Press the controls (**2.10** and **2.11**) to respectively decrease or increase the rotation speed limit

PRESETTING THE MAX TORQUE from 20 to 100%

- Press the control (**2.12**) until the cursor moves to (**T**).
- Press the controls (**2.10** and **2.11**) to respectively decrease or increase the MAX percentage torque setting (from **20** to **100%**).

SETTING THE HANDPIECE REDUCTION/MULTIPLICATION RATIOS

- Press the control (**2.12**) until the cursor moves to the set handpiece reduction ratio.
- Press the control (**2.11**) to select the various values indicated in the table in sequence.
- Press the control (**2.10**) to select in reverse sequence.

	Selected ratio rotations	*LCD indicat. (RPM MAX)*
200 - 40000 RPM	**1000:1**	**20**
	260:1	**76**
	120:1	**166**
	60:1	**333**
	40:1	**500**
	30:1	**666**
200 - 40000 RPM	**20:1**	**2000**
	16:1	**2500**
	10:1	**4000**
	8:1	**5000**
	7,4:1	**5405**
	5,4:1	**7407**
	4:1	**10000**
	2,5:1	**16000**
	2:1	**20000**
	1:1	**40000**
	1:2	**80000**
	1:3	**120000**
	1:4	**160000**
	1:4,5	**180000**
	1:5	**200000**
	1:5,7	**228000**

N.B.: WHEN THE REDUCTION RATIO IS SET IN THE RANGE BETWEEN 30:1 AND 1000:1, THE NUMBER OF REVOLUTIONS ON THE MOTOR SHAFT WILL AUTOMATICALLY BE REDUCED BY 50%

INVERSION OF ELECTRICAL MICROMOTOR TURNING DIRECTION

- Press the control (**2.26**) to invert the turning direction of the electric micromotor (when the instrument is extracted only); press again to return to normal rotation mode.

N. B.: the inversion of the electric micromotor turning direction can be activated/deactivated by moving the lever (part. 1.1 – pict. 5) on the foot control in the direction marked A (see "Foot control " functions) (once again, this operation may only be performed with the instrument extracted).

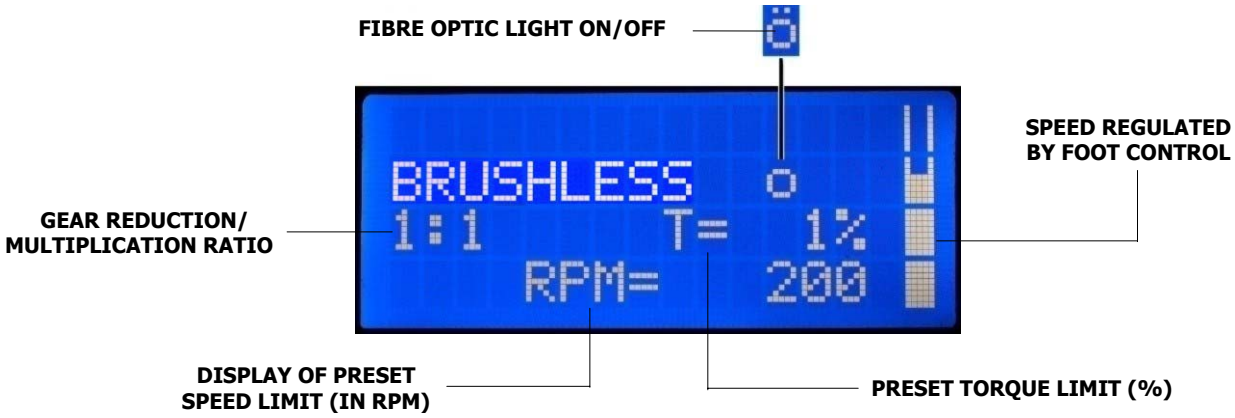
SWITCHING AIR SPRAY TO ELECTRIC MICROMOTOR ON/OFF

- Press the control (**2.13**) to switch the air flow to the electric micromotor spray on (only with instrument extracted); press again to switch off the outlet of air from the handpiece spray.

SWITCHING THE FIBRE OPTIC LIGHT ON/OFF (only for IMPLANTOR L STERIL and IMPLANTOR LF STERIL)

- Press the control (**2.12**) to move the cursor to (**O**)
- Press the controls (**2.10** or **2.11**) to switch on the fibre-optic lighting (**Ö**), press again to switch it off (**O**)

- *"IMPLANTOR 2LF" ELECTRIC MICROMOTOR MENU* – (Picts. k – l - m)



Pict. k - *IMPLANTOR 2LF micromotor menu screen*

Electric Micromotor in standard operating mode

When the handpiece is pulled out, a menu with the heading **BRUSHLESS** will appear on the display (see pict. M).

MAX SPEED ***(from 200 to 50,000 Rpm)***

- Press the control (**2.11**) to increase the speed limit (**RPM**)
- Press the control (**2.10**) to decrease the speed limit (**RPM**)

The max torque deliverable to the handpiece ranges between 1% and 100 %; to adjust the torque limit proceed as follows:

- Press the control (**2.12**) until the cursor moves to **T**
- Press the control (**2.11**) to increase the **%** value
- Press the control (**2.10**) to decrease the **%** value

INVERSION OF ELECTRICAL MICROMOTOR TURNING DIRECTION

- Press the control (**2.26**) to invert the turning direction of the electric micromotor (when the instrument is extracted only); press again to return to normal rotation mode.

N. B.: the inversion of the electric micromotor turning direction can be activated/deactivated by moving the lever (1.1 – pict. 5) on the foot control in the direction marked A (see "Foot control " functions) (once again, this operation may only be performed with the instrument extracted).

SWITCHING AIR SPRAY TO ELECTRIC MICROMOTOR ON/OFF

- Press the control (**2.13**) to switch the air flow to the electric micromotor spray on (only with instrument extracted); press again to switch off the outlet of air from the handpiece spray.

SWITCHING THE FIBRE OPTIC LIGHT ON/OFF

- Press the control (**2.12**) to move the cursor to (**O**)
- Press the control (**2.11**) to switch on the fibre-optic lighting (**Ö**), press again to switch it off (**0**)

SETTING THE HANDPIECE REDUCTION/MULTIPLICATION RATIO

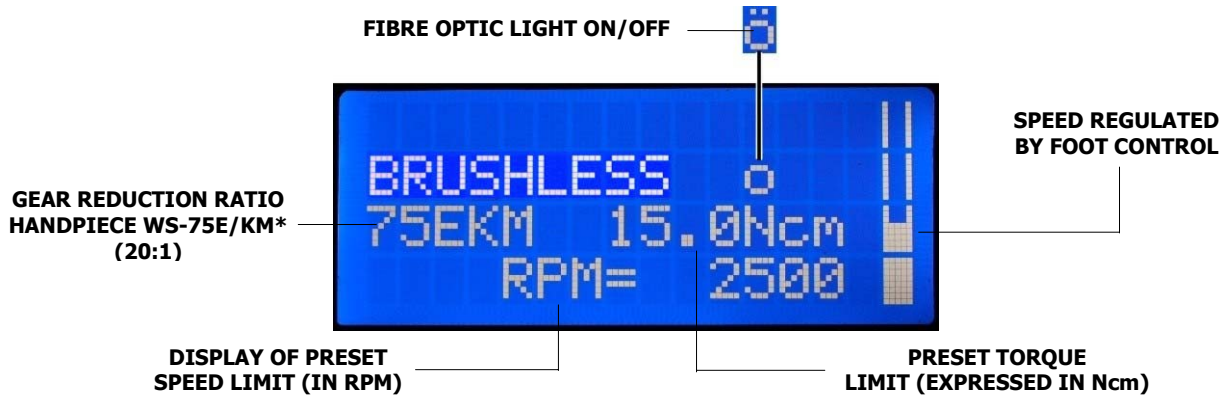
- Press the control (**2.12**) until the cursor moves to the set handpiece reduction ratio.
- Press the control (**2.11**) to increase the ratio.
- Press the control (**2.10**) to decrease the ratio.

	Selected ratio rotations	*LCD indicat. (RPM MAX)*
200 - 50000 RPM	**1000:1**	**25**
	260:1	**96**
	120:1	**208**
	60:1	**416**
	40:1	**625**
	30:1	**833**
200 - 40000 RPM	**75EKM (20:1)**	**2500**
	20:1	**2500**
	16:1	**3125**
	10:1	**5000**
	8:1	**6250**
	7:1	**7142**
	6:1	**8333**
	5:1	**10000**
	4:1	**12500**
	2:1	**25000**
	1:1	**50000**
	1:2	**100000**
	1:3	**150000**
	1:4	**200000**
	1:5	**250000**

When the handpiece gear reduction/multiplication ratio is changed the displayed speed (RPM) will change accordingly, in proportion to the selected reduction/multiplication ratio.

N.B.: BY SELECTING REDUCTION RATIOS IN THE INTERVAL BETWEEN 30:1 AND 1000:1 THE NUMBER OF REVOLUTIONS ON THE MOTOR SHAFT WILL AUTOMATICALLY REDUCE BY 50% IN ORDER TO AVOID DAMAGING REDUCER HANDPIECES UNABLE TO FUNCTION AT HIGH TURNING SPEEDS.

***Micro motor operation with W&H handpiece model WS-75E/KM* (torque indicated in Ncm)* (Pict. l)**


FIBRE OPTIC LIGHT ON/OFF
SPEED REGULATED BY FOOT CONTROL
GEAR REDUCTION RATIO HANDPIECE WS-75E/KM* (20:1)
BRUSHLESS
75EKM 15.0Ncm
RPM= 2500
DISPLAY OF PRESET SPEED LIMIT (IN RPM)
PRESET TORQUE LIMIT (EXPRESSED IN Ncm)

Pict. l - *IMPLANTOR 2LF micromotor menu screen with W&H handpiece model WS-75E/KM**

With the W&H handpiece model WS-75E/KM* it is possible to select **75EKM** as the reduction ratio and obtain a torque reading in Ncm instead of % (see picture l).

(*) The handpiece model WS-75E/KM can be substitued, at the same characteristics, with handpiece model **GOLSPEED R20-L.**

The max torques actually deliverable by the micro motor can be changed by directly adjusting the value shown on the display as follows:

- Press the control (**2.12**) until the cursor moves to **Ncm**.
- Press the controls (**2.10** and **2.11**) to respectively increase or decrease the torque limit (expressed in **Ncm**)

***Electric Micromotor in ENDO mode* (Pict. m)**

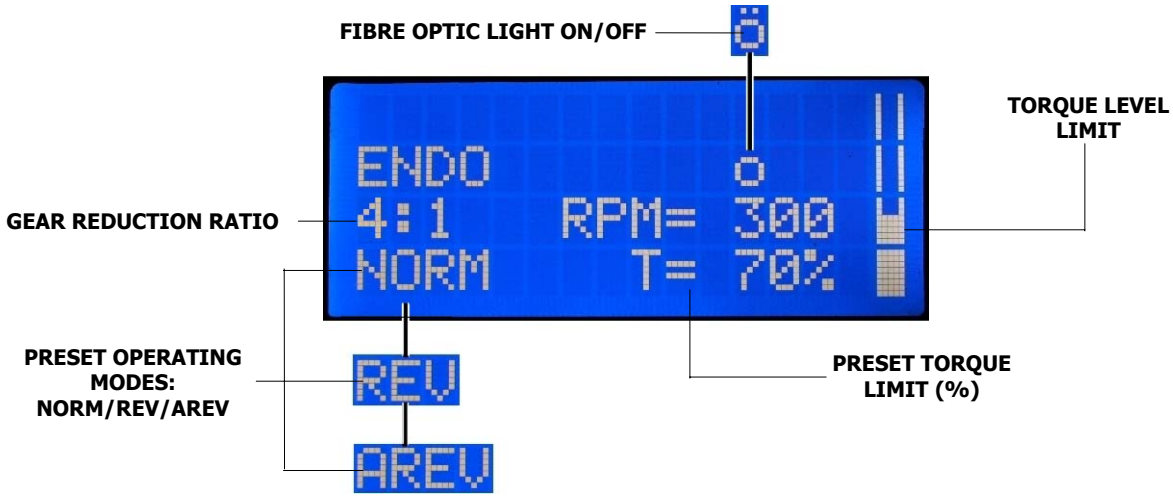
By selecting the ENDO mode it is possible, with the use of specific endodontic handpieces, to use the Brushless motor in combination with root canal files.

- Press the **MODE** control (**2.27**) to select the **ENDO** mode

A menu with the heading **ENDO** will appear (see pict. **m**).

- Press the control (**2.12**) until the cursor moves to **RPM**
- Press the controls (**2.10** and **2.11**) to respectively increase or decrease the rotation speed setting

- The **ENDO** function for the IMPLANTOR 2 *(Brushless)* micromotor may be activated/deactivated from the foot control by moving the control (**1.1** – pict. 5) in the direction indicated by the arrow with **B** (see "Foot control functions" para.) (this operation must always be performed with the instrument extracted).



Pict. m - *IMPLANTOR 2LF micromotor menu screen in ENDO mode screen*

MAX. TORQUE (T)

- Press the controls (**2.10** and **2.11**) to respectively decrease or increase the **T %** value

PRESETTING THE MAX BURR SPEED *(150 - 600 RPM)*

- Press the control (**2.12**) to move the cursor to **RPM**

- Press the control (**2.10**) to increase the speed setting

- Press the control (**2.11**) to decrease the speed setting

SWITCHING THE FIBRE OPTIC LIGHT ON/OFF

- Press the control (**2.12**) to move the cursor to (**O**)

- Press the control (**2.11**) to switch on the fibre-optic lighting (**Ö**), press again to switch it off (**0**)

INVERSION OF ELECTRIC MICROMETER TURNING DIRECTION

Press the control (**2.26**) to invert the electric micromotor turning direction (only when the instrument is extracted); press again to revert to normal turning mode.
N. B.: the inversion of the turning direction of the electric micromotor can be activated or deactivated by moving the lever (part. 1.1 – pict. 5) on the foot control in the direction marked A (see "Foot control functions" para.) (once again this operation must always be performed when the instrument is extracted).

SWITCHING SPRAY AIR TO ELECTRIC MICROMOTOR ON / OFF

- Press the control (**2.13**) to switch on the air flow to the electric micromotor spray (when the instrument is extracted only); press again to cut-off the outlet of air from the handpiece spray

SETTING THE HANDPIECE REDUCTION RATIO

- Press the control (**2.12**) until the cursor moves to the set gear reduction ratio

- Press controls (**210** and **2.12**) to select the reducer handpieces for endodontics. (**4:1, 16:1 and 18:1**).

As the revolution reduction ratio varies (4:1, 16:1 and 18:1) the speed of the micromotor is automatically adjusted to obtain the exact speed shown on the display to the instrument.

3 different sub-modes are available when the micro motor is working in the **ENDO** mode: **NORM/REV/AREV.** To select them, proceed as follows:

- Press the control (**2.12**) to move the cursor onto the work mode

- Press the controls (**210** and **2.12**) to vary the work mode in sequence: **NORM**, **REV** and **AREV**

NORMAL Mode: (NORM) **on reaching the set torque limit, the micro motor will stop if the max torque is maintained for over a second. To start the motor up again, release and then reactivate the foot control lever.**

REVERSE Mode: (REV) **on reaching the set torque limit, the micro motor will reverse the direction of rotation for about 1 second and then stop. To start the motor up again, release and then reactivate the foot control lever.**

AUTOREVERSE Mode: (AREV) **on reaching the set torque limit, the micro motor will reverse the direction of rotation for about 1 second and then again start turning in the original direction, repeating the same cycle as before until reaching the maximum torque. To stop the motor, release the foot control**

WARNING:

N.B.: Always ensure that the handpiece used corresponds to the revolution reduction ratio set. Incorrect selection entails incorrect speed and torque at instrument.

The instrument is activated approximately half way along the pedal lever's travel. The maximum rotation speed value of the file is 600 RPM (revs/min.). The minimum value is 150 RPM. With a variation in the revolution reduction ratio, the maximum torque is automatically limited in order to obtain approx 5Ncm (T = 100%).

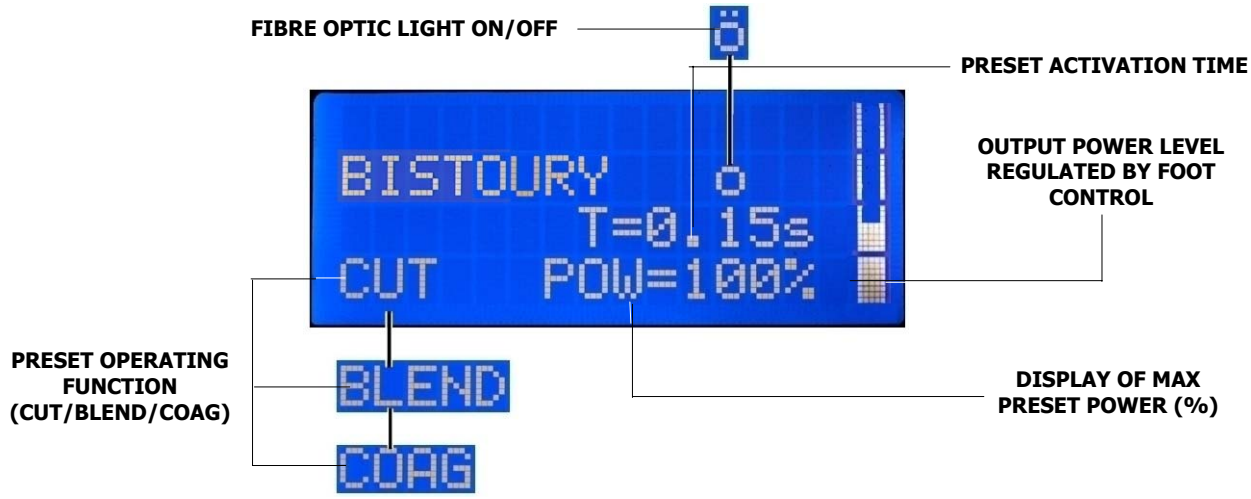
N.B.: During the use of the micromotor in ENDO mode, when the maximum torque value set by the operator is exceeded by 60% a warning tone will sound.

- BULB FOR "POLYLIGHT STERIL 3" CURING LAMP

The "Polylight Steril 3" curing lamp can be supplied with the unit (subject to request) mounted on the Assistant's tray. When the handpiece is extracted no specific menu will appear on the dentist's tray display for the curing lamp and the parameters relating to the times set will be shown on the display present on the handpiece.

N.B.: For other lamp operation characteristics consult the relevant instructions provided in the corresponding *"Part III – Instruments" section.*

- ELECTROSURGERY INSTRUMENT MENU **– (Pict. n)**



Pict. n - *Electrosurgical instrument menu display*

PRESETTING THE POWER FROM 1 TO 100% (POW)

- Press one of the controls (**2.10** and **2.11**) to decrease or increase the preset power delivered to the handpiece. **MIN POW = 1%; MAX POW = 100%.**

SETTING THE TIMER (TIME)

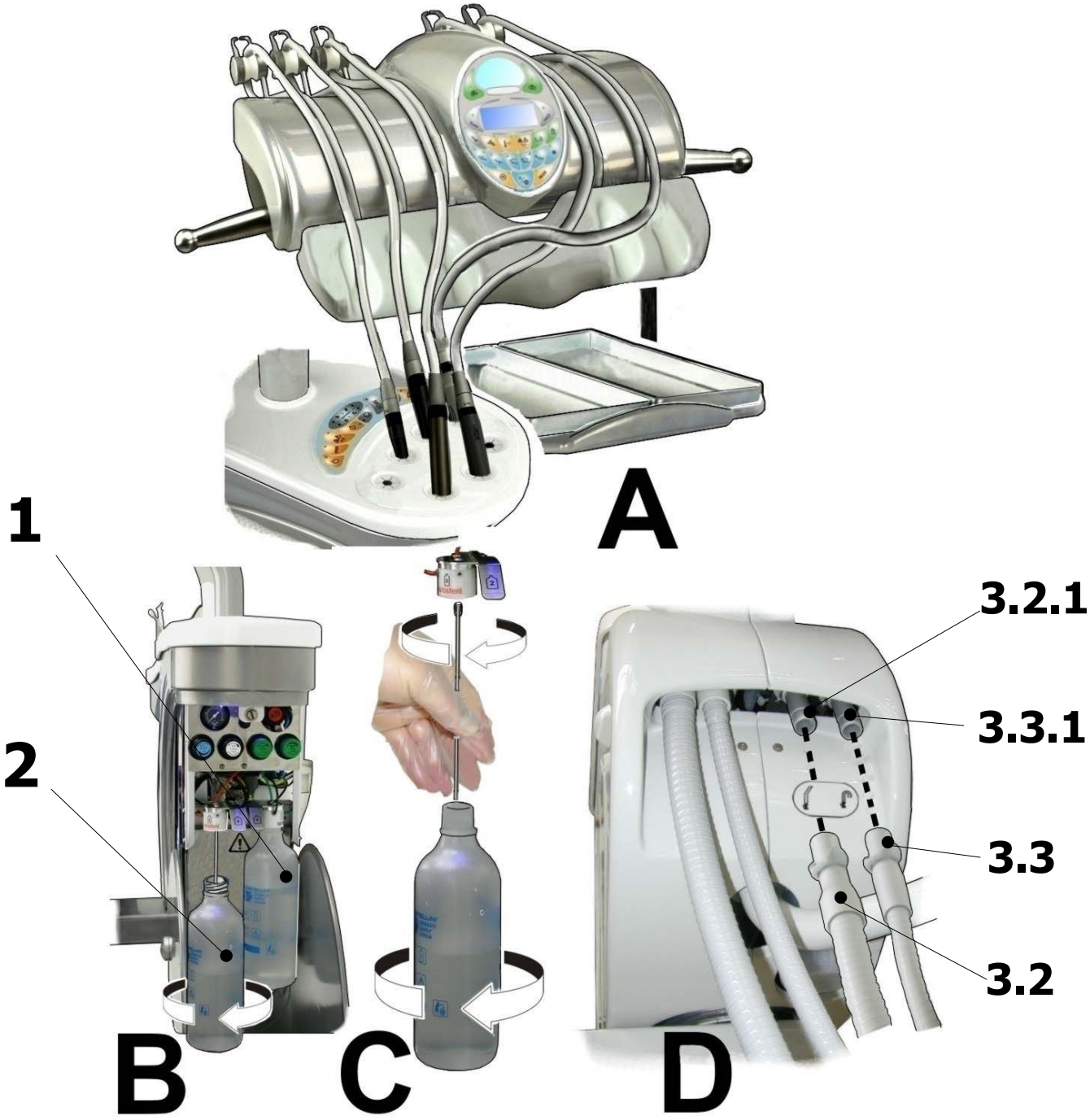
- Press the control (**2.12**) to shift the cursor onto **TIME**
- Press the controls (**2.10** or **2.11**) to decrease or to increase the time setting (range from **0.01** to **9.99** s) and to disable or enable timed operations (**Time = 0.01s ÷ Time = ----**)

SWITCHING THE FIBRE OPTIC LIGHT ON/OFF

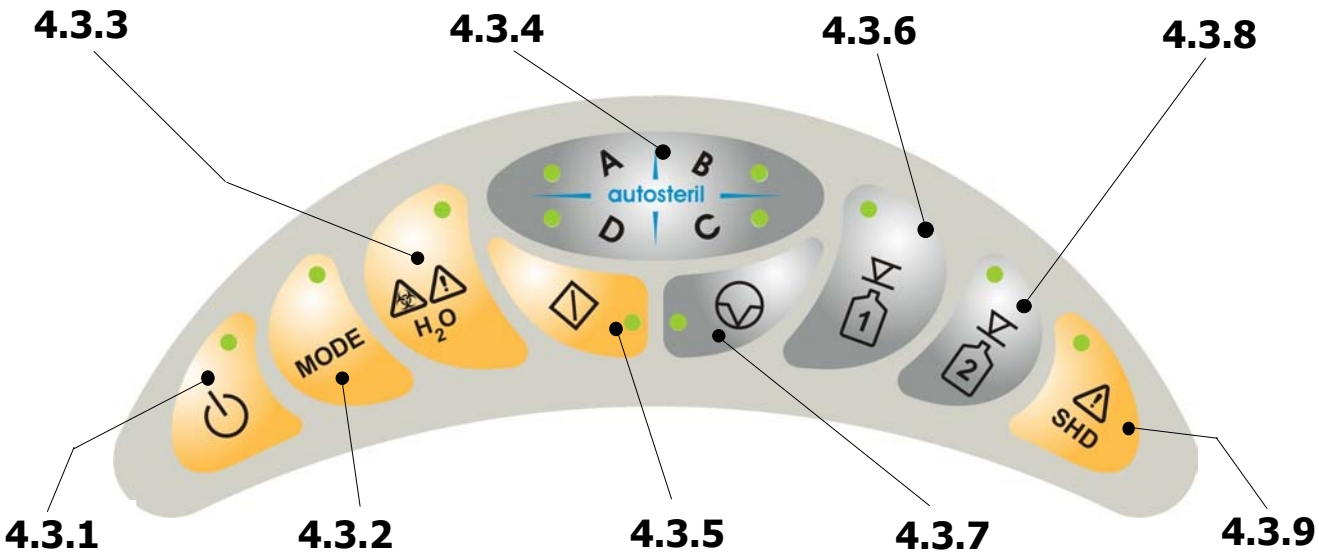
- Press the control (**2.12**) to move the cursor to (**O**);
- Press the controls (**2.10** or **2.11**) to switch on the light (**Ö**), press again to switch it off (**O**).

SELECTING FUNCTIONS (CUT/BLEND/COAG)

- Press the control (**2.12**) to shift the cursor onto the currently set function;
- Press one of the controls (**2.10** or **2.11**) to select one of the available functions (**CUT**, **BLEND** or **COAG**).



Pict. 6 - *AUTOSTERIL/TIME FLUSHING/S.H.D. Systems*



Pict. 7 - *AUTOSTERIL/TIME FLUSHING/S.H.D. control panel*

4.3.1 - Control for switching system into STAND-BY and green LED indicator.

4.3.2 - Control for selecting the preset AUTOSTERIL cycle (**A B C D**) or TIME FLUSHING.

4.3.3 - Control for selecting Separate Supply liquid to be delivered to instruments and used for the TIME FLUSHING. The LED will be lit when mains water has been selected. The LED will be off when a dedicated liquid has been selected.

4.3.4 - Indicators for selected AUTOSTERIL cycle (**CT = contact time**)

No LED = TIME FLUSHING
LED **A**: CT = 2 min
" **B**: CT = 5 min
" **C**: CT = 10 min
" **D**: CT = NIGHT

4.3.5 - Control for starting the AUTOSTERIL and TIME FLUSHING cycles and green LED indicator.

4.3.6 - LED warning that the liquid in the Separate Supply bottle used for the instrument sprays, AUTOSTERIL rinse and TIME FLUSHING cycle is running low.

4.3.7 - LED signalling the pause-contact phase during the AUTOSTERIL cycle.

4.3.8 - Led indicating disinfectant liquid in reserve

4.3.9 - Control for the S.H.D. *(SUCTION HOSES DISINFECTION)* system for cleaning and sanitising the suction lines

WARNING:

Should the unit switch off while the AUTOSTERIL /TIME FLUSHING system is running, when it is switched back on the system will recommence from the suspended cycle phase.

The only exception is when switching back on after the nighttime pause of the "NIGHT" cycle, which will recommence from the subsequent phase.

AUTOSTERIL and TIME FLUSHING

Pict. o – *AUTOSTERIL/TIME FLUSHING first display page*

* **AUTOSTERIL: system for decontaminating** the instrument waterlines in which a sporicidal, virucidal, fungicidal and bactericidal chemical agent is introduced into the dental water delivery system, left in contact and then rinsed away with mains water or a separately supplied dedicated liquid.
  An effective result is achieved at the end of exposure, in relation to the contact time and product used; the final rinse removes all product residues and leaves the last rinse liquid in the waterlines.
* **TIME-FLUSHING: sanitisation** of instrument waterlines by flushing with mains water or a separately supplied dedicated liquid.

AUTOSTERIL and TIME FLUSHING are not designed to deliver liquids for surgical irrigation, but rather to treat the waterlines when the dental unit is not in use.
The specific disinfectant product for the Autosteril system and dedicated liquids for the Separate Supply system are listed in the section "Products to be used with Castellini dental units".

WARNING:
Always check what type of liquid is present in the reservoirs,
both before carrying out a treatment and before resuming normal use.

PREPARATION

Before carrying out an AUTOSTERIL cycle:

- **Prepare the disinfectant solution** in reservoir **2** (**AUTOSTERIL**) (Pict. 6 - **B**) following the instructions for use accompanying the product, then connect the reservoir to the coupling;

- **Select the liquid** for the AUTOSTERIL rinse or TIME FLUSHING cycle using the control (**4.3.3**) Pict. 7 (see section on "Separate Supply").

- disconnect the high-speed and low-speed handpieces and scaler and open the flow regulators in the hose terminals all the way to max
- insert the instrument hose terminals in the holders in the water unit (Pict. 6 - **A**)
  Note: the treatments may also be carried out with the handpieces connected to the hoses, provided that care is taken to remove burrs, rotating instruments and scaler tips; in such a case, when the cycles are over, IT IS INDISPENSABLE to lubricate turbines and micro motor handpieces and then run them a few seconds.

AUTOSTERIL (decontamination treatments with a sporicidal, virucidal disinfectant)

- Press in sequence the AUTOSTERIL enable pushbutton (system on stand-by) (**4.3.1** - pict. 7) and the pushbutton for selecting the AUTOSTERIL cycle (**4.3.2**): the LEDs corresponding to the cycle selected will light up in sequence as indicated in the table below:

LED **A** on: AUTOSTERIL cycle selected with Contact Time (**CT**) = 2 min
" **B** on: AUTOSTERIL cycle selected with Contact Time (**CT**) = 5 min
" **C** on: AUTOSTERIL cycle selected with Contact Time (**CT**) = 10 min
" **D** on: AUTOSTERIL cycle selected with Contact Time (**CT**) = NIGHT

- check the selection made on display

PERFORMING THE AUTOSTERIL CYCLE

- press the control (**4.3.5**) to start the chosen cycle.

Once they have started, Autosteril cycles run automatically through to the end of the cycle.
The switching off of the unit interrupts the performance of the cycle but does not cancel it: when the unit it switched back on it will recommence from the interrupted phase.

The automatic performance of the Autosteril cycles can be cancelled using the control (**4.3.1**)

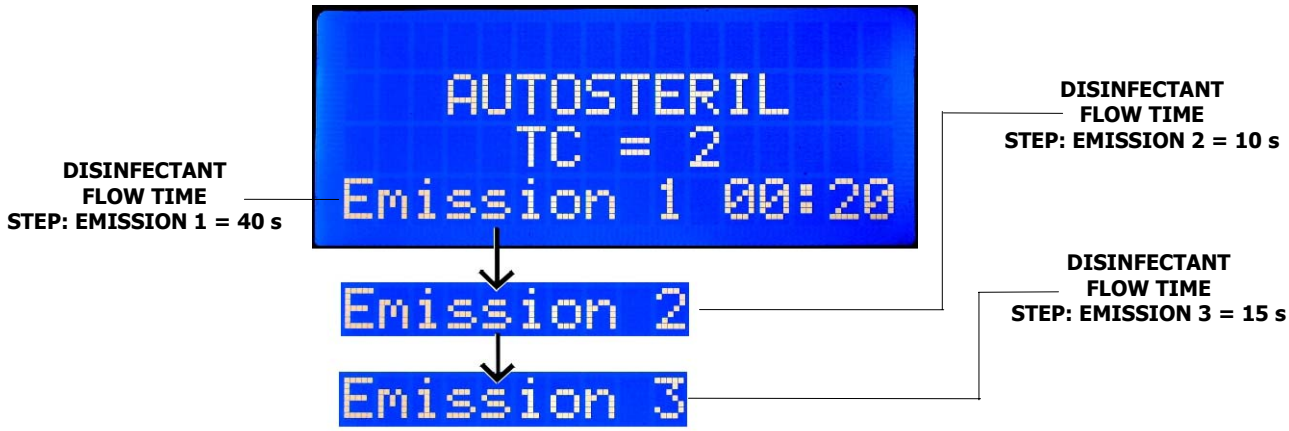
A) Treatment Cycle A *(contact time CT = 2 min)*

STEP 1 : DRYING. The message ***DRYING*** will appear on the DISPLAY

Pict. p - *AUTOSTERIL menu display (Cycle A - Step 1)*

The system automatically carries out 2 drying steps in sequence (LED **4.3.1 4.3.4 + 4.3.5** on).

STEP 2: EMISSION OF DISINFECTANT LIQUID. The message ***EMISSION 1, 2, 3*** will appear on the DISPLAY



Pict. q - *AUTOSTERIL menu display (Cycle A - Step 2)*

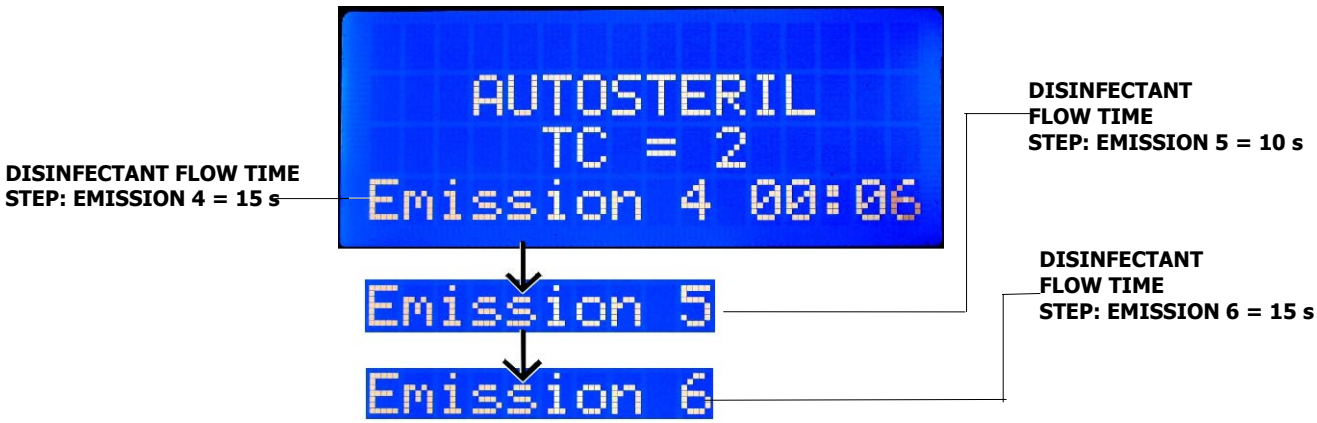
The system automatically carries out 3 disinfectant emission steps in sequence (LED **4.3.1+ 4.3.4 + 4.3.5**+ intermittent tone indicator).

STEP 3: CONTACT PAUSE 1. The message ***PAUSE 1*** will appear on the DISPLAY

Pict. r – *AUTOSTERIL menu display (Cycle A - Step 3)*

The system pauses for the first phase of contact (LED **4.3.1 + 4.3.4 + 4.3.5** + LED **4.3.7** on + intermittent tone indicator).

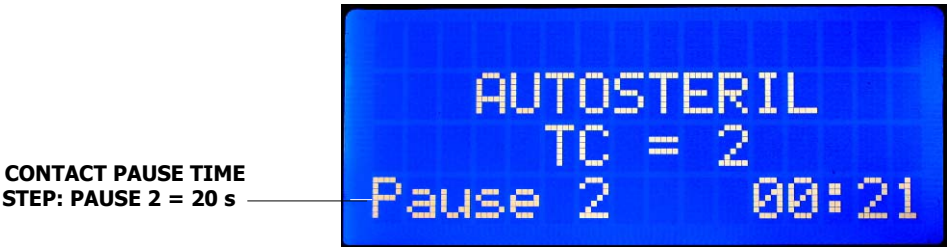
STEP 4: EMISSION OF DISINFECTANT LIQUID. The message ***EMISSION 4, 5, 6*** will appear on the DISPLAY



Pict. s – *AUTOSTERIL menu display (Cycle A - Step 4)*

The system automatically carries out the last 3 disinfectant emission steps in sequence (LED **4.3.1** + **4.3.4** + **4.3.5** on).

STEP 5: CONTACT PAUSE 2. The message ***PAUSE 2*** will appear on the DISPLAY



Pict. t – *AUTOSTERIL menu display (Cycle A - Step 5)*

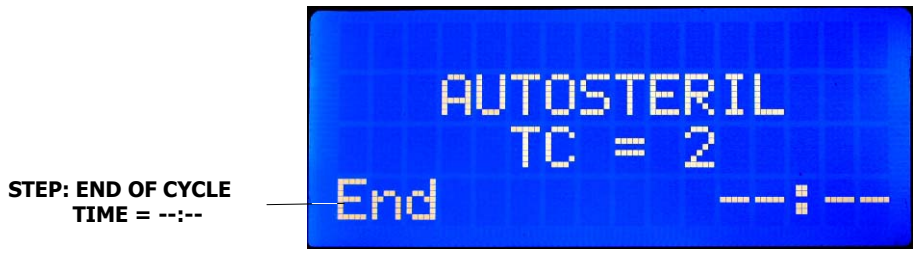
The system pauses for the second phase of contact (lasting 25 s) (LED **4.3.1** + **4.3.4 + 4.3.5** + **4.3.7** on + + intermittent tone indicator throughout the pause).

STEP 6: RINSE WITH SELECTED LIQUID. The message ***RINSE 1, 2*** will appear on the display:

Pict. u – *AUTOSTERIL menu display (Cycle A - Step 6)*

The system carries out two consecutive rinses with the selected liquid (LED **4.3.1 + 4.3.4** + **4.3.5** on)

STEP 7: END OF CYCLE. The message ***END*** will appear on the DISPLAY

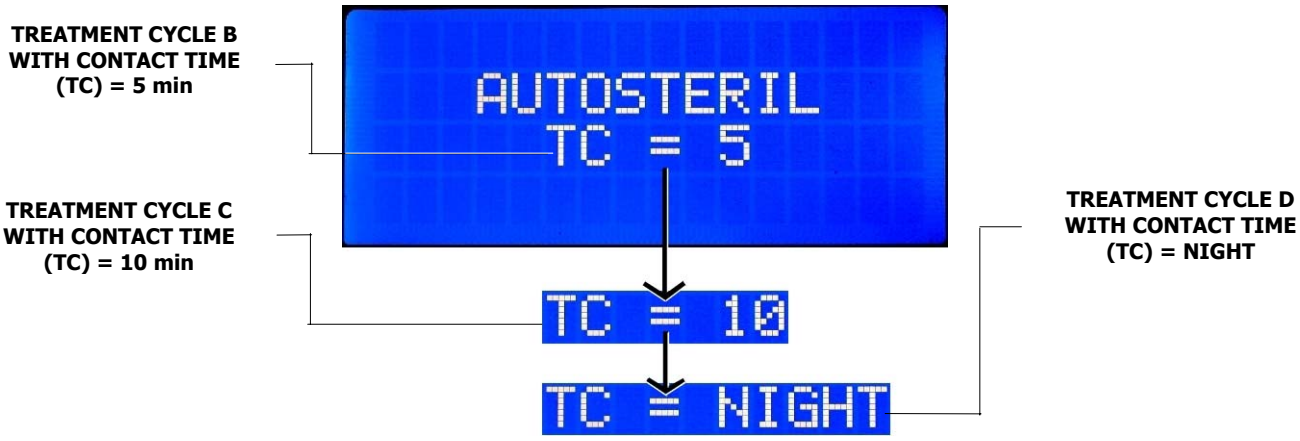


Pict. v – *AUTOSTERIL menu display (Cycle A - Step 7)*

The system indicates the end of the cycle with 3 acoustic tones and the switching off of all leds except the led (**4.3.1**). By pressing the key (**4.3.1**) the system is deactivated.

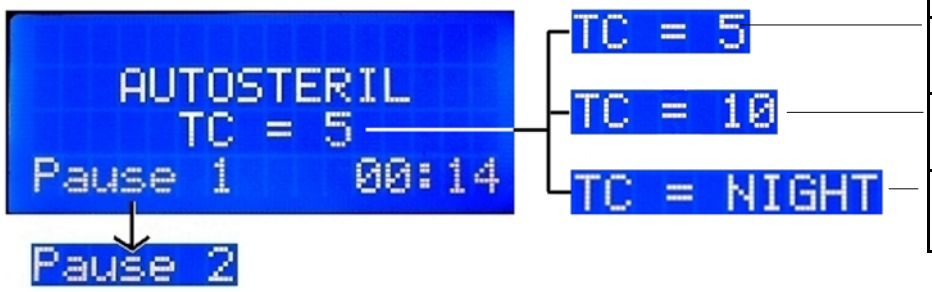
B - C - D) Treatment Cycles B – C and D *(contact times CT = 5 min, 10 min, NIGHT)*

The following messages will appear on the DISPLAY:



Pict . w - *AUTOSTERIL menu display (Cycle B, C, e D)*

The AUTOSTERIL treatment cycles marked **B**, **C** and **D** have the same characteristics with regard to the sequence and timing of phases the only variant being the two pause times (**PAUSE 1** and **PAUSE 2**) that vary according to the contact times selected as shown in the chart below:



PAUSE TIME CONTACT PHASE: **PAUSE 1**	*TEMPO DI PAUSA CONTATTO FASE:* **PAUSE 2**
1 min 50 s	**1 min 50 s**
4 min 20 s	**4 min 20 s**
4 min 20 s	**fino alla riaccensione**

Pict. x - *Treatment cycles B, C, and D screens (Pause 1 – 2)*

If the nocturnal cycle has been selected, the User may switch the unit off when the "GOOD NIGHT" message appears.
In the nocturnal treatment cycle (**TC = NIGHT**), the contact 2 pause time (PAUSE 2) is interrupted by the Dentist or Assistant.
When the unit is switched back on the nocturnal cycle commenced the previous evening will be completed.
Who, at the start of the next working day, will connect the Dental Unit to the power supply to enable completion of the overnight cycle begun the previous evening.

TIME-FLUSHING (rapid cycle for rinsing waterlines by flushing with the spray liquid)

- press in sequence the system enable (stand-by) pushbutton (**4.3.1** - Pict. 7) and the cycle start pushbutton (**4.3.5**). **Check that liquid is discharged from the instruments.**

The following captions will appear on the DISPLAY in sequence:

	STEPS	*TIME*
1)	**DRYING TIME STEP: DRYING 1**	**20 s**
2)	**DRYING TIME STEP: DRYING 2**	**10 s**
3)	**EMISSION TIME WITH DEDICATED LIQUID STEP: STEP 1**	**40 s**
4)	**EMISSION TIME WITH DEDICATED LIQUID STEP: STEP 2**	**20 s**
5)	**STEP: END OF CYCLE (END)**	**--:--**

Pict. y - *TIME FLUSHING menu screen*

The system automatically carries out in sequence the 2 drying steps (**DRYING** 1 and 2), the 2 emission steps with the selected liquid (**STEPS 1** and **2**) and then terminates the cycle (LED **4.3.1** on + acoustic signal indicating end of cycle – 3 beeps).

- By pressing the key (**4.3.1**) the system is deactivated (LED goes off)

ADDITIONAL INDICATIONS (Pict. 7)

- Level low in Disinfectant Tank: LED (**4.3.8**) on + acoustic signal

  (the low level warning inhibits the start of a new cycle but enables a cycle already underway to be completed)

- Selection of mains water for instrument sprays: LED (**4.3.3**) on

- Level low in dedicated liquid reservoir: LED (**4.3.6**) on (+ acoustic signal on only with selected tank)

  (the low level warning inhibits the start of a new cycle but enables a cycle already underway to be completed)

S.H.D. *(Suction Hoses Disinfection) system* (automatic suction hose disinfection cycle) (2 minutes)

The S.H.D. system performs rapid disinfection of the surgical suction hoses with the sporicidal, virucidal and bactericidal disinfectant suitable for the Autosteril cycles (see "PRODUCTS FOR USE WITH CASTELLINI DENTAL UNITS" paragraph).

Pict. 7A –*S.H.D. System*

PREPARATION

Prepare the disinfectant solution in the S.H.D. tank (Pict. 7A) as follows:
- remove the tank from the plumbing unit, by unscrewing it from the corresponding attachment;
- introduce the powered disinfectant, in the dose indicated for the preparation of 1L of solution;
- swirl slightly whilst adding lukewarm water (35 – 40 °C) until the tank is full (approximately 220 ml);
- reconnect the tank to the plumbing unit by screwing it tightly on to the corresponding attachment;
- remove the cannulas from their connections on the end of the suction hoses;
- connect the suction hoses to the S.H.D., by introducing the ends, set to maximum opening, on to the attachments present in the plumbing unit (details. **3.2.1** and **3.3.1** – Pict. 6D).

N.B.:

The content of the tank is sufficient to perform 7-8 disinfection cycles. Renew the solution when the level of the liquid drops below the minimum level indicated on the tank and in any case after 12 hours from preparation.

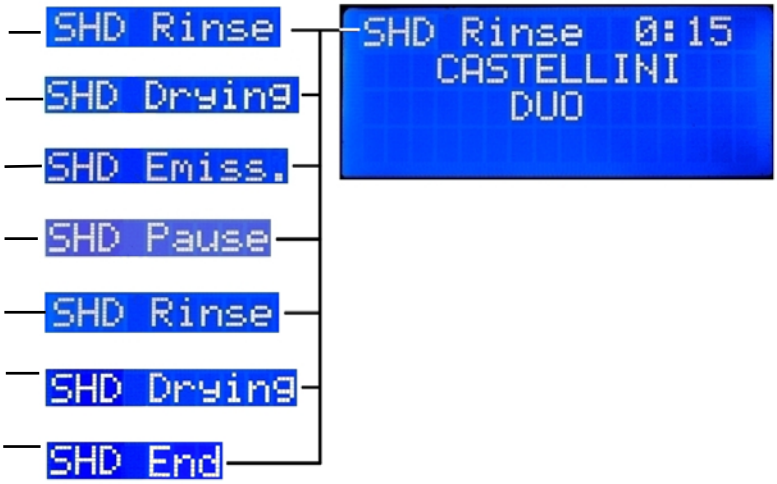
PROCEDURE:

- Press the control (**4.3.1** – Pict. 7), followed by the start cycle control(**4.3.9**)

The system will automatically perform the phases of:
- preliminary pipe drying ;
- internal treatment with disinfection;
- final rinse and dry.

During the performance of the S.H.D. cycle , the following indications will appear on the display of the dentist's tray:

	STEPS	*TIME*
1)	RINSING TIME WITH SELECTED LIQUID STEP: RINSE 1	5 s
2)	DRYING TIME STEP: DRYING 1	15 s
3)	DISINFECTANT FLOW TIME FASE: EMISSION	15 s
4)	CONTACT PAUSE TIME STEP: PAUSE	60 s
5)	RINSING TIME WITH SELECTED LIQUID STEP: RINSE 2	15 s
6)	DRYING TIME STEP: DRYING 2	10 s
7)	STEP: END OF CYCLE (END)	--:--



Pict. z - *S.H.D. menu display*

- A beep tone and the switching off of the LED on the control (**4.3.9**) indicate the end of the cycle.

The system stops when suction canulas are replaced in its seat in assistant's table (LED **4.3.9** lights off).

SEPARATE SUPPLY SYSTEM

The dental unit can supply the instrument waterlines from two different sources:

- separate supply from an independent, sterilisable or disposable tank (SPRAY tank n° **1** Pict. 6).
- normal mains WATER supply, provided that the system used guarantees physical separation between the supply source and the instrument waterlines, in conformity with Standard EN 1717.

It is recommended always to supply the instruments with a dedicated liquid from a separate reservoir

The reservoir and intake needle (in pict. 6 - **B**) can be removed (by turning them anticlockwise as shown in the picture) and sterilised in an autoclave at 135 °C, 210 kPa (2.1 bars) for 20 minutes. This reservoir is also used for the Autosteril/Time Flushing cycles. The separate supply system can work with a liquid introduced into the reservoir provided or dedicated liquids in disposable containers that can be connected to the dental unit in place of the reservoir: Purified Water (Italian Official Pharmacopeia) or Isotonic Saline Solution.

Note The dedicated liquids that can be used with the separate supply system are listed in the section: "Products to be used with Castellini dental units"

SELECTING THE SUPPLY SOURCE

The supply source can be selected from the instrument tray control panel and AUTOSTERIL/TIME FLUSHING control panel (**2.16** - Pict. 2B, **4.3.3** – Pict. 7).

- Pushbutton (**4.3.3**) at rest and LED off = separate supply from independent reservoir
- Pushbutton (**4.3.3**) activated and LED on = supply with mains water

INTRODUCING / REPLACING LIQUID IN THE RESERVOIR

- switch on the unit;
- unscrew the sterilisable reservoir from its coupling by turning anticlockwise (Pict. 6C)
- remove the intake needle by turning it anticlockwise;
- sterilise the reservoir and needle in an autoclave for 20 min at 135 °C - 210 kPa (2.1 bars)
- pour the selected liquid into the sterilised reservoir; during this operation wear sterile gloves and take care to avoid contact with any nearby surfaces; then screw the sterilised needle back in place
- reconnect the reservoir by lifting it up around the intake needle and screwing it completely into place.
- switch off the unit.

AUTOCLAVEABLE BOTTLE
CODE N5000096

Disposable container of dedicated liquid

- switch on the unit;
- remove the empty disposable container by turning anticlockwise
- remove the intake needle by turning it anticlockwise and sterilise it in an autoclave for 20 min at 135 °C - 210 kPa (2.1 bars)
- wearing sterile gloves and taking care to avoid contact with any nearby surfaces, screw the sterilised needle back in place
- open a new container of dedicated liquid by removing the sealed cap and connect it by lifting it up around the intake needle and screwing it completely into place.
- switch off the unit.

PURIFIED WATER
1-LITRE BOTTLE
CODE N500P064

SALINE SOLUTION
1-LITRE BOTTLE
CODE N500P066

CAUTIONARY NOTES

WARNING: before using an instrument on patients, check the type of liquid contained in the reservoir

After using Physiological Solution or Isotonic Saline Solution or after using a different product in a Separate Supply System, immediately rinse out the waterlines by carrying out a simple Time Flushing cycle by purified or distilled water.

OTHER INDICATIONS (Pict. 7)

- Reservoir (**SPRAY**) level low: LED (**2.16** - pict. 2B, **4.3.3** – pict. 7) + LED (**4.3.6** – Pict. 7) (steadily lit + brief intermittent acoustic signal).
  When the reservoir (**SPRAY**) is replenished or replaced, the warning signals will be deactivated.

SUCTION SYSTEMS *(optional)*

ATTENTION: Suction system cannulas are not provided with the unit. We recommend the use of cannulas that conform to Directive 93/42 EEC, bearing a CE mark only.

Single-surgery type "S" suction

This type of suction requires the single-surgery suction motor housed in a special box and a kit composed of the following parts, mounted inside the unit:
- Air liquid separator for drainage of aspirated liquids;
- Suction motor activation circuit;
- Tube for blood ejector cannula;
- Tube for mist cannula;
- Filter for aspirated liquids.

Arrangement for type "C" centralised air suction

This arrangement requires a kit for the connection of the unit to a centralised suction system, composed of the following parts assembled inside the unit:
- Pneumatic solenoid valve for suction selection;
- Tube for blood ejector cannula;
- Tube for mist cannula;
- Filter for aspirated liquids.

SINGLE-SURGERY "S" SUCTION or CENTRALISED "C" SUCTION or CENTRALISED "LC" SUCTION

Arrangement for "LC"centralised suction with liquid ring

This arrangement requires a kit for connecting the unit to a centralised suction system, composed of the following parts assembled inside the unit:
- Pneumatic solenoid valve for suction selection;
- Tube for blood ejector cannula;
- Tube for mist cannula;
- Filter for aspirated liquids.

Suction with "METASYS Compact Dynamic" or "DÜRR COMBI CAS 1" amalgam separator device

The use of amalgam separator devices in single-surgery and centralised suction systems makes it possible to separate and collect amalgam residues in the liquid, as well as perform air/liquid separation.
The system is fitted with a highly efficient centrifuge amalgam separator, with separate treatment of the two types of drainage from the unit:
1) surgical suction drainage, consisting in a little water, approximately 100 ml/min with a high concentration of amalgam residues;
2) cuspidor drainage, consisting in a heavier water flow (3 l/min) with a low concentration of amalgam residues.

The system assures the separation of 95% of amalgam, in compliance with current international legislation.
"METASYS MST1 ECO" or "DURR CS1" type systems on the other hand are aspirated liquid/air separators and partial separators of the solid residues of amalgam present only in the liquids aspirated through the suction pipes.
All systems are provided subject to request and assembled inside the unit.

METASYS COMPACT DYNAMIC

METASYS ECO

DÜRR COMBI CAS 1

Arrangement for centralised mod. "DÜRR VSA" suction system

This arrangement includes the housing inside the unit body, of a kit of components for connection to a single-surgery or centralised suction system, composed of:
- pneumatic solenoid valve for selecting suction to the cannulas.
- collector for drainage liquids from cuspidor and cup, with solenoid valve for the activation of the aspiration system for the liquid drainage, and filter for the treatment of solid residues.

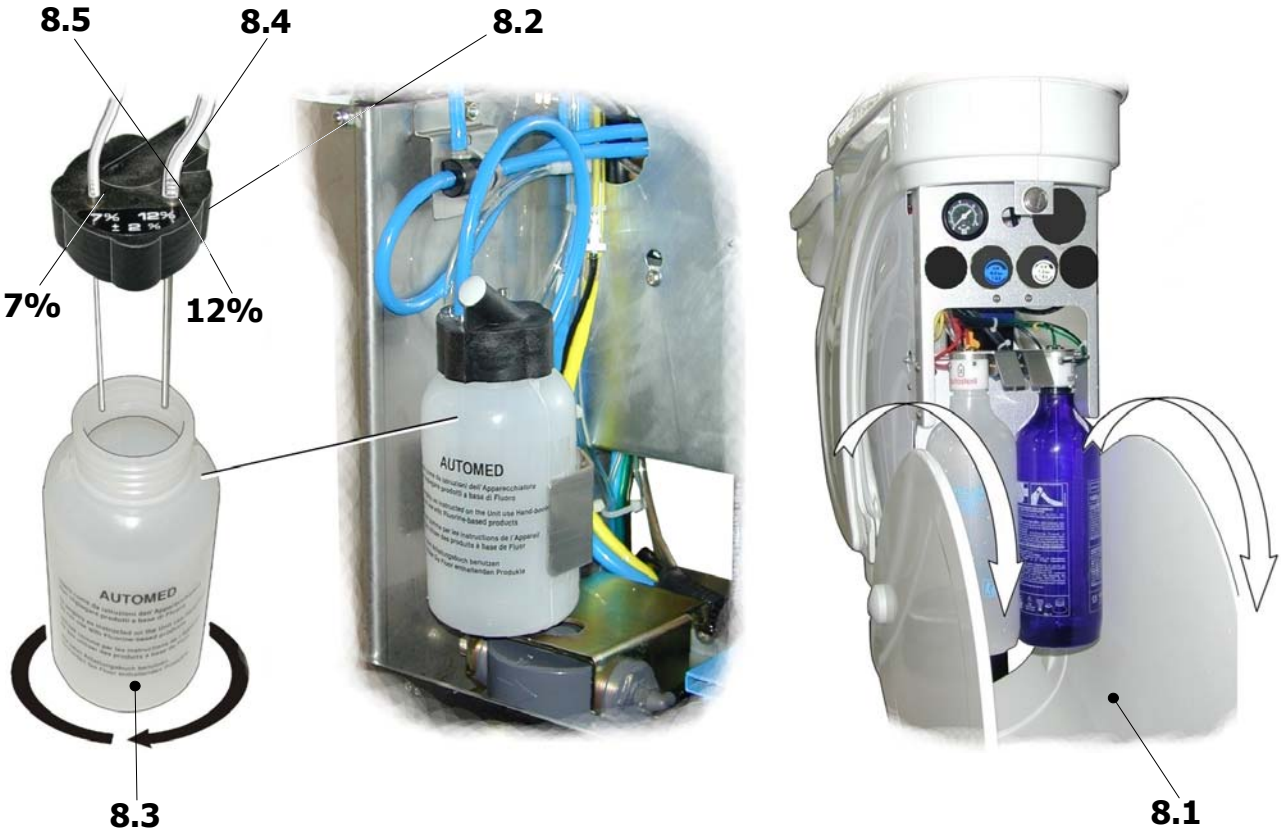
"AUTOMED" OPERATION (Pict. 8)

The system (Pict. 8) automatically batches anti-sceptic mouthwash into the water dispensed into the cup. Two different solutions are possible: **7%** and **12%** ± **2%**. The unit is supplied set at **7%**.
To change dilution, disconnect the tube (**8.4**) from the connector marked **12%** (**8.5**) and connect it to the connector marked **7%**.
During normal function, the water dispensed assumes the colour of the product.
When the product in the tank runs out the water dispensed will not be coloured and there will be a slight turbulence in dispensing.

FILLING THE TANK
To access the tank, proceed as follows:
- Open the door (**8.1**), rotating it downwards, as shown in the picture;
- Remove the tank (**8.3**) from its housing;
- Free the plug (**8.2**), by turning the tank anticlockwise;
- Fill the tank to the maximum level indicated (250 ml);
- Replace the plug (**8.2**), reposition the tank (**8.3**) and close the door (**8.1**);
- Screw the tank back on to the plug.

CAUTION
When the door is open, several internal components connected to the secondary low voltage supply will become accessible. To maintain conditions of utmost safety, DO NOT touch these parts and the patient at the same time.

ATTENTION:
Albeit CASTELLINI S.p.A. strongly recommends the use of "DIN" of the Firm CABON for AUTOMED operations, it is understood that the choice of the medicament product is solely the responsibility of the dental surgeon.
Fluorine-Based products are to be strictly avoided in order to ensure equipment integrity. Mouthwash water must under no circumstances be swallowed by the patient.

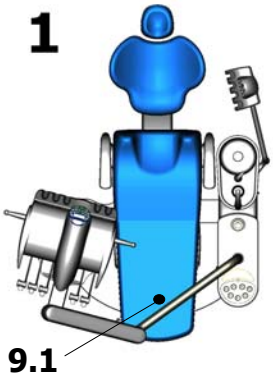


Pict. 8 – *AUTOMED System*

CONVERSION OF THE "DUO" DENTAL UNIT FROM RIGHT-HANDED TO LEFT-HANDED CONFIGURATION

(only for ambidextrous dental units) **(PICTS. 9A, 9B, 9C, 9D and 9E)**

The ambidextrous version of the "DUO" unit is fitted with a manual mechanical system for the transformation of work layouts for both right- and left-handed dentists. The operations required for the abovementioned conversion consists in 5 quick and easy steps that can be performed by surgery staff:



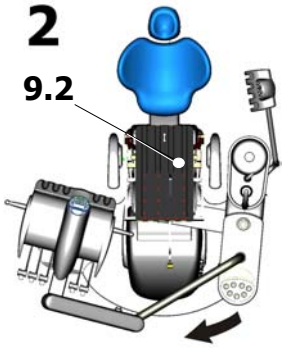
Pict. 9A - *Step 1*

Step 1 – Positioning the unit and dismantling seat upholstery.

Position the chair approximately halfway up its height stroke and take the backrest to a completely upright position, then switch off the main switch. Dismantle the seat upholstery (**9.1 -** Pict. 9A) by detaching the two rear Velcro fasteners and sliding it forward.

ATTENTION:

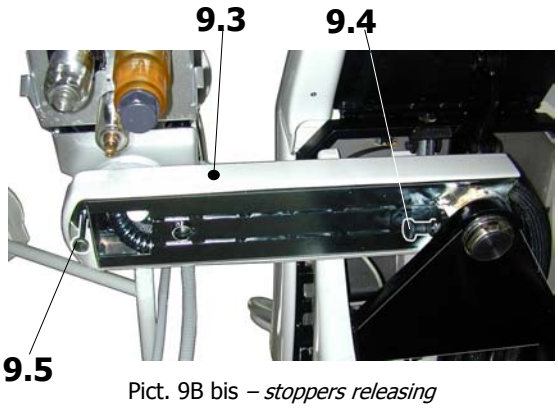
- It is recommended to remove the suction terminals from the assistant's tray and disconnect the corresponding tubes from the unit body in order to prevent hindrances during the conversion manoeuvre.
- If the light support post (Pict. 1 – "Part II – *Operating lamp LUNA*) is essential, remove the left handle *(tray side with two instruments)* turning it anti-clockwise and extracting the handpiece rest from the tray having disconnected the handpieces from the hoses.



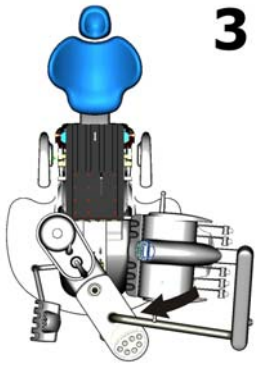
Pict. 9B - *Step 1*

Step 2 – Releasing the unit.

Fold the front metal part of the seat (leg-rest) back toward the backrest (**9.2** – pict.. 9B). Disengage the anti-rotation stoppers by pulling the knobs (**9.4** and **9.5**) and, at the same time, exerting a partial rotation of the arm (**9.3**) and unit body in order to keep the pins unlocked.



Pict. 9B bis – *stoppers releasing*



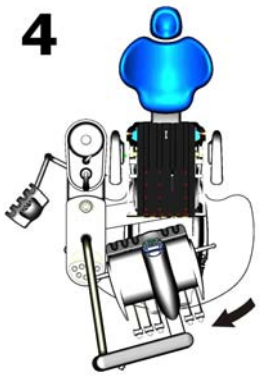
Pict. 9C - *Step 3*

Step 3 – Instrument tray rotation.

Position yourself in the centre of the chair and pull the unit body towards you, paying careful attention to pass the assistant's tray arms forwards. When the unit body is halfway along the chair, take the instrument tray to the opposite side to the plumbing unit taking care to keep the arms in to avoid the unit from toppling over. (see Pict. 9C).

Step 4 – Rotating and locking the plumbing unit.

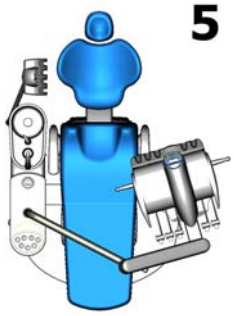
Complete the rotation of the unit body taking it to the end of its stroke (Pict. 9D) and ensure that the stopper pins (9.4 and 9.5) are inserted into their seats. Reposition the suction terminals in their seats and then insert the connectors at the other end of the tubes into the plumbing unit body.



Pict. 9D - *Step 4*

Step 5 – Assembling chair upholstery and positioning trays.

Rotate the instrument tray taking it to a position in which it will not hinder the reassembly of the seat upholstery, and then fold the front part of the seat (legrest) outwards.
Reassemble the seat upholstery (Pict. 9E) repeating the operations indicated in Phase 1 in reverse order.
Reassemble the left handleon the handpiece rest and on the tray by introducing the pins in the seats until they abut. Reposition the dentist and assistant's trays in the respective work areas.



Pict. 9E - *Step 5*

DISINFECTION AND STERILIZATION

Procedures and program for sanitizing the equipment

ATTENTION: Always wear protective gloves when performing cleaning and disinfecting operations.

The products that can be employed with the unit are listed in the "Products for use with dental unit" paragraph and must be used according to product instructions.

Upholstery – cleaning: For a protective, sanitising cleansing treatment use "***ST-Surface Treatment Castellini***": apply directly on the surface to be treated and spread evenly with a soft cloth. Then remove residues with a dry cloth.

Surfaces – cleaning: - Clean and decontaminate with Castellini ***STER 1 PLUS***.

- disinfection: - Disinfect using ethyl alcohol 70% vol.
apply using a cloth, rub in until absorption.

- WATERLINES SUPPLYING SPRAYS

- cleaning: Flushing - Time Flushing with mains water (see Chap. on Autosteril / Time Flushing)
- decontamination: Autosteril cycle with chemical sterilant (see Chap. on Autosteril / Time Flushing).

- **Flexible shields** Inside tray, handpiece rests, Autosteril/Time Flushing holders:
- cleaning: - clean and decontaminate with ***STER 1 PLUS*** Castellini according to the instructions provided.
WARNING: contact with silicone materials for interocclusal records may cause irreparable damage to flexible shields and instrument cords
- disinfection: - disinfect using ethyl alcohol 70% vol

- sterilization: *- to bleach flexible protections*
- maintenance - prepare a solution with 0.1÷ 0.5 % Active Chlorine, such as ***AMUCHINA*** Chlorine Oxidant diluted 10% in water or commercial Bleach diluted 10 % in water;
- Allow the parts to be bleached to soak for 1 – 2 hours;
- Remove and rinse thoroughly.

Note: immediately after treatment the part may become temporarily darkened but after a few hours of exposure to the air it will spontaneously regain its natural surface color.
This treatment also has a disinfectant effect.

WARNING: In contact with acids, the liquid releases a toxic gas (Chlorine). Irritant.
Rinse the treated materials thoroughly before reusing them

Ceramic bowl
- cleaning: - domestic scale removing cleanser applied with a soft sponge (non-abrasive);
- sterilisation: - in suitable steam autoclave for 20 min at 135°C – 210kPa (2.1 bars)

- **Tray handles**
Tank and hose for separate supply
Cover of Autosteril tub
- cleaning: - cleaning and sanitizing with ***STER 1 PLUS*** Castellini
- disinfection: - disinfect using ethyl alcohol 70% vol.
- sterilization: - in an autoclave with steam for 20 min at 135 °C - 210 kPa (2.1 bars)

- **Compressed air filter ampules** (General air filter and HPA filter)
- cleaning: - clean with a neutral liquid detergent (e.g. neutral Shampoo) and warm water.

WARNING: THE MATERIAL OF THE AMPOULES IS NOT ALCOHOL RESISTANT!

- **HPA filtering cartridge** for compressed air
- sterilization: - in an autoclave with steam for 20 min at 135 °C - 210 kPa (2.1 bars)

SURGICAL SUCTION SYSTEM

- **Suction tubes**
  - cleaning and sanitizing: - aspirate the diluted solution of ***STER 3 PLUS***, according to the instructions provided; then replace the disposable cannulas or rinse out and sterilize the reusable cannulas.
  - disinfection: - sanitisation treatment with **S.H.D.** system (0ptional) (see section on "S.H.D. System")
- **Cannulas connectors**
  - cleaning: - Clean and decontaminate using Castellini ***STER 1 PLUS***.
  - disinfection - Disinfect using ethyl alcohol 70% vol.
  - sterilization: - The cannula connectors are disconnected from their respective hoses and sterilised in a steam autoclave for 20 min at 135° C – 210 kPa (2.1 bar)
- **Suction system filter**
  - cleaning: - clean and sanitize the CONDUITS (see **"Suction tubes"**);
    - activate the suction system by raising a cannula;
    - while the suction is on, remove the pressure plug (**13.2** – Pict. 13);
    - dispose of the residues and wash the filter under running water.

OPERATING LIGHT:

INSTRUMENTS: - see the instructions for each instrument in Parts ***"LUNA" operating lamp*** and ***Operating Instruments*** – in this manual.

EQUIPMENT SANITIZATION SCHEDULE

START OF THE WORKING DAY

- ***TIME-FLUSHING*** cycle, simple flushing with tap water;
- Application of sterilized Flexible Protections;
- Application of disposable covers for the Chair and Dental Unit;
- Insertion of ***VF CONTROL PLUS*** tablet in the filter of the suction system.

VF CONTROL PLUS
PACKAGE CONTAINING 120 TABLETS CODE N500PP80
PACKAGE CONTAINING 240 TABLETS CODE N500PP79

AFTER EACH PATIENT

- ***AUTOSTERIL*** waterline decontamination cycle
- Sterilization of sterilizable instruments(lubrication of Turbines and Micro-motor handpiece before and after treatment with ***DAILY OIL***)
- Sterilization of Flexible Shields
- ***S.H.D. cycle (optional)*** or cleaning of suction hoses with ***STER 3 PLUS*** (3 measuring capfuls in 1 litre of hot water)
- Cleaning and disinfecting of contaminated surfaces with ***STER 1 PLUS*** *and* ***ETHYL ALCOHOL 70%***
- Change of disposable covers

END OF THE WORKING DAY

- ***AUTOSTERIL*** waterline decontamination cycle
- Sterilization of sterilizable instruments (lubrication of Turbines and Micro-motor handpiece before and after treatment with ***DAILY OIL***)
- Sterilization of Flexible Shields
- Sterilization of Separate Supply Tank
- Elimination of disposable covers
- Clean and disinfect contaminated surfaces with ***STER 1 PLUS*** *and* ***ETHYL ALCOHOL 70%***
- Sanitizing protective detergent of Dental Chair surfaces and Stool Upholstery use ***ST-Surface Treatment***
- Cleaning of surgical suction CONDUITS with ***STER 3 PLUS*** (3 measuring caps in 1 liter of hot water)
- ***S.H.D.*** Cycle ***(optional)***
- Cleaning of Suction System FILTER
- Cleaning of cuspidor drain FILTER
- Sterilisation of cuspidor water spout, cup filler, cuspidor, dentist's tray handles and handpiece protection (all removable and autoclaveable)

DAILY OIL
SPRAY W/ QUICK COUPLING CODE L0000945
SPRAY W/ QUICK COUPLING CODE L0000946
SPRAY WITH SCREW CONNECTION CODE L0000950
SPRAY WITH SCREW CONNECTION CODE L0000951

STER 1 PLUS
1 Lt CODE N500P089
Package with six 1Lt Bottles CODE L0000813

STER 3 PLUS
1 Lt CODE N500P071
Package with six 1Lt Bottles CODE L0001293

ST-Surface Treatment
Bottle 400 ml
CODE N500P150

MONTHLY

- Sterilization of ***HPA*** cartridge (if present)
- Cleaning of AMALGAM SEPARATOR filter (if present)
- Note: see instructions for replacing the amalgam collector;
- Cleaning of GLASS FRONT and REFLECTING MIRROR of the Operating Light.

CARTRIDGE HPA
CODE H4200025

ROUTINE MAINTENANCE

procedures and maintenance to be performed by Dental Surgery Personnel

Routine checks and maintenance ensure that the equipment preserves its functional and safety features and are the user's responsibility.
In addition to routine maintenance, periodic scheduled maintenance must be performed by a Castellini Service Center, which must be called by the user at the intervals indicated in the Chapter on Schedule Technical Maintenance.

PROCEDURES

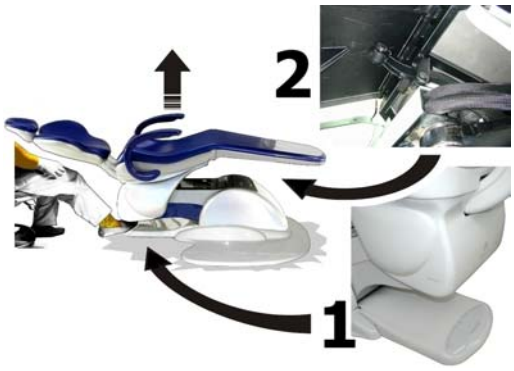
CHECK ON CRUSH-PREVENTION SYSTEMS **(Pict. 10)**

1 - ***Check on chair lowering anti-crush safety system*** **(Pict. 10A - 1)**

- Activate the chair lowering control and simultaneously press the safety base plate; the chair should come to an immediate stop and rise a few centimetres

2 - ***Check on backrest reclining anti-crush safety system*** **(Pict. 10A - 2)**

- Activate the backrest recline control and simultaneously block its way; the backrest should immediately stop moving



Pict. 10A – *Chair lowering anti-crush safety system*

Pict. 10B – *Assistant's tray anti-crush system*

3 - ***Check on Assistant's Tray anti-crush system*** **(Pict. 10B)**

- Activate the backrest raising control and simultaneously lift the handle of the assistant's tray; the chair should come to an immediate halt and move down a few centimetres

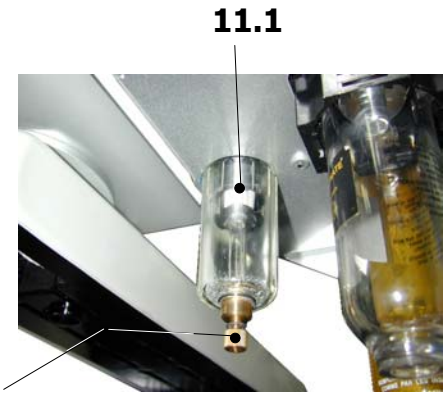
Should any of these systems fail to perform efficiently, contact the Castellini Service Dept.

GENERAL AIR FILTER **(Pict. 11)**

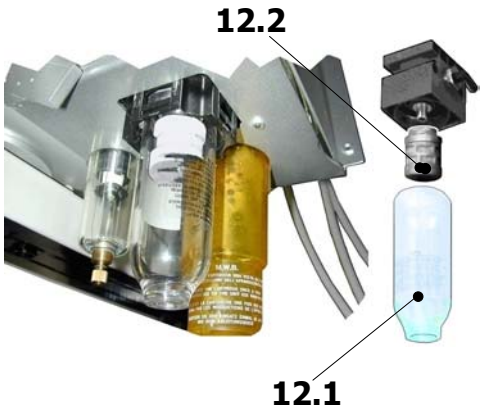
The general air filter has the function of trapping dust and separating out the condensation of the pneumatic supply. The level of condensed liquid must not reach the filtering element (**10.1**).
To empty out condensed liquid:
- raise the chair to maximum height;
- shut off the main switch of the dental unit;
- place a container beneath the filter;
- unscrew the drain valve (**10.2**) and drain the condensed liquid.

WARNING: the transparent ampoule is not ALCOHOL RESISTANT!

REPLACE the filtering element once a year (contact the Service Center).



Pict.. 11 – *General air filter*



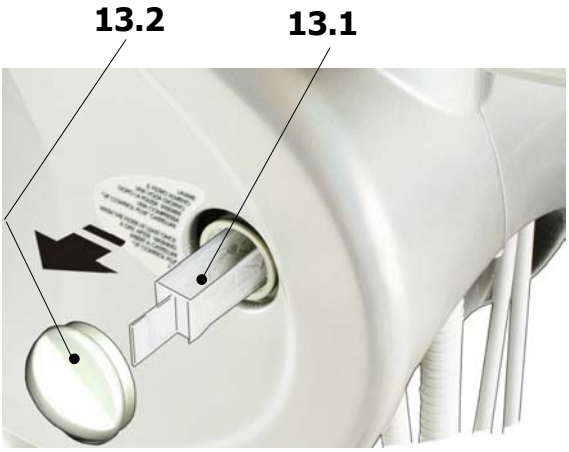
Pict. 12 – *HPA filter*

HPA FILTER **(Optional) (Pict. 12)**

The HPA filter has the function of trapping air-borne bacteria. The internal cartridge is autoclaveable:
- raise the chair to max. height;
- shut off the main switch of the dental unit;
- operate the syringe to release the air pressure;
- unscrew the transparent ampoule with your hands; (**11.1**)
- pull out the cartridge (**11.2**) and sterilize it in an autoclave at 135 °C 210 kPa (2.1 bars) for 20 min.

DO NOT USE DRY STERILIZERS.
- re-insert the sterilized cartridge by applying pressure and screw the ampoule back in place, tightening it all the way.

WARNING: the ampoule is NOT ALCOHOL RESISTANT!
REPLACE the cartridge once a year.



Pict. 13 - *Suction system filter*

SUCTION SYSTEM FILTER **(Pict. 13)**

Keep the suction filter (**13.1**) clean and free of residues according to the cleaning directions provided in the chap. on Cleaning, Disinfection and Sterilization.
After cleaning, place one or two VF Control plus - sanitizing antifoaming tablets inside the filter.

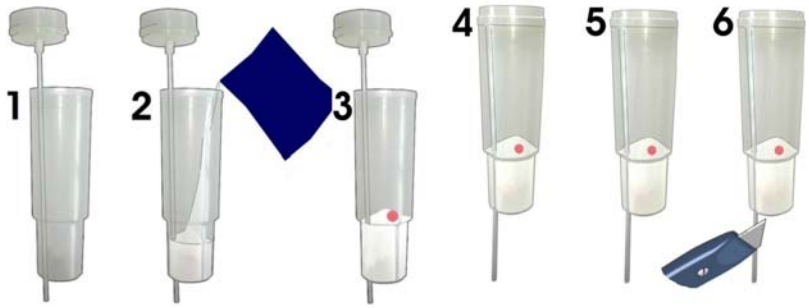
CAUTION: wear protective gloves
Always operate with the suction system on (tube raised).

MWB SYSTEM - BIOLOGICAL CONTROL OF WATER SUPPLY (Pict.s 14A and 14B) (Optional)
- (*under responsibility of dental surgery personnel*)

The MWB system automatically dispenses a disinfecting agent in the incoming water supply, at a concentration that ensures "hygienic protection" of the water supply and prevents contamination within the circuit.
The system utilizes a disposable cartridge which must be filled with disinfectant.
The products that may be used with the MWB system are listed in the Chap. on "Products to be Used with the Dental Unit"
The cartridge must be replaced once six months.

Cartridge preparation and assembly **(Pict. 14A)**

1 - Insert the tube inside the hole at the bottom of the cartridge and place the opposite end in the lower receptacle of the cover
2 - Pour 50 grams of disinfectant in the cartridge
3 - Place the level indicator (red ball) inside the cartridge
4 - Close the cartridge by fitting the cover, allowing any excess tubing to come out of the bottom
5 - Fit the cover in all way by applying light, steady pressure with a flat object until it clicks into place.



Pict. 14A - *MWB cartridge: preparation/assembly*

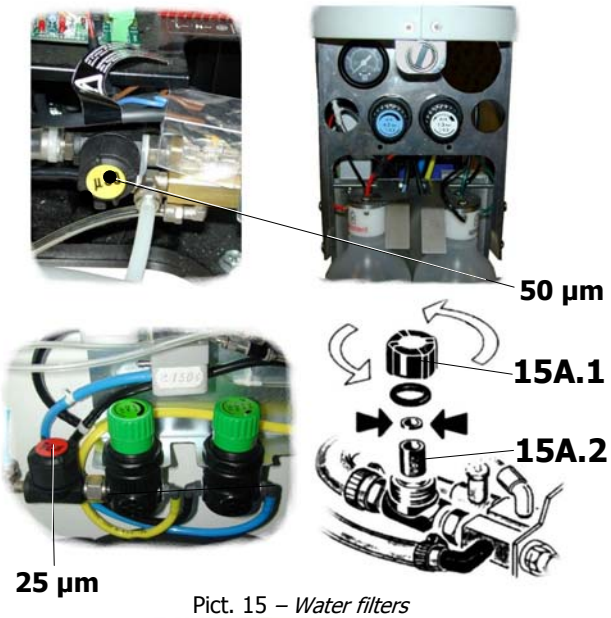
Installation / replacement of MWB cartridge **(Pict. 14B)**

8 - Shut off the main switch of the dental unit and operate the air/water syringe to release residual pressure
9 - Unscrew the lower casing from the head of the MWB unit
10 - Insert the complete closed cartridge in the lower casing.
11 - Fit the lower casing back onto the head, without forcing it.
12 - Turn on the dental unit and check the tightness of the MWB unit.

Pict. 14B - *MWB cartridge: installation/replacement*

MWB CARTRIDGE
CODE H4200027

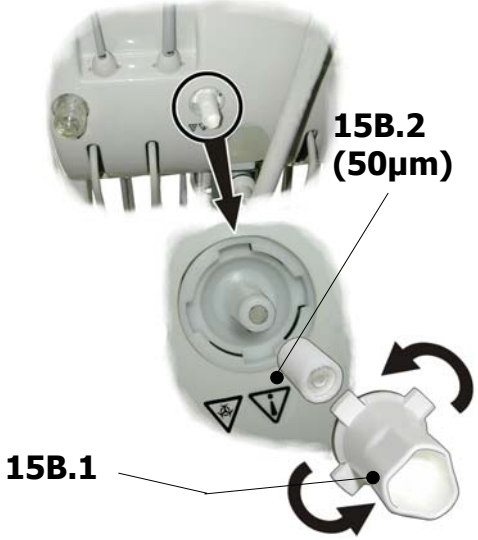
WATER FILTERS **(Pict. 15A)** **- (*under responsibility of dental surgery personnel*)**



Pict. 15 – *Water filters*

Each dental unit has two water filters: a general filter in the base of the chair (50 µm, with a **yellow** label), and a filter for the instruments in the Water Supply Unit (25 µm, with a **red** label).
In the event of a decrease in pressure or in water flow and in any case at least once a year, clean or replace the filtering elements:
- shut off the water supply to the dental unit
- shut off the main switch of the dental unit
- use the syringe to release residual pressure
- unscrew the cap (**15A.1**) and take out the filtering element (**15.2**)
- replace the filtering element or clean it with either compressed air or water.

WATER FILTER FOR HANDPIECES SPRAY **(Pict. 15B)**



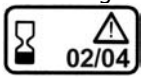
Pict. 15B – *Water filter for handpieces spray*

In the inner part of the holder–instruments table is placed a water filter for the spray liquids of the operating instruments (about 50µm).
In case of pressure or water flow reduction of sprays to the handpieces, and once at six months thereafter, clean or subsitute the filtering element:
- stop the hydric power of the unit;
- close the main switch;
- activate the syringe to discharge the remaining pressure;
- unscrew the cap (**15B.1**) and pull out the filtering element (**15B.2**);
- substitute the filtering element or clean it with compressed air or water.

TURBINE CONDENSATION FILTER **(Pict. 15C)**

Pict. 15C – *Turbine condensation filter*

Should you observe a significant increase in the build up of condensation inside the filter (**15C.1** – Pict. 15C) situated beneath the dental unit instrument tray, remove the cover (**15C.2**) by turning it clockwise about a ¼ of a turn, replace the filtering element (**15C.3**) and eliminate the liquids present.



The filtering element must be replaced for the first time within a year of the date shown on the cover and at least once a year thereafter.

WARNING DANGER OF BACTERIAL CONTAMINATION!
The liquid condensate inside the cover must be handled and disposed of by personnel wearing disposable gloves and eye protection and always **in compliance with Sanitary Regulations for the disposal of Waste associated with a High Biological Hazard.**

LUBRICATION OF SEALS

Pict. 16A - *Lubrication of seals*

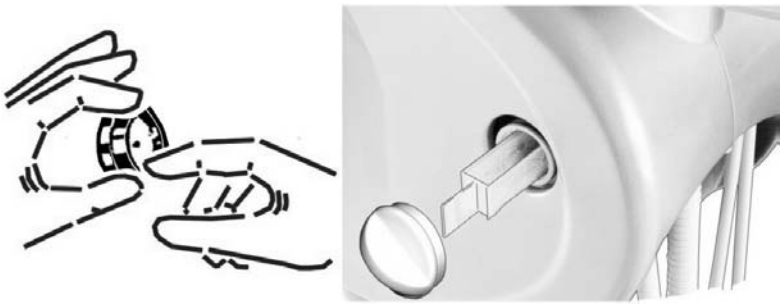
Use protective paste: **"S1 Castellini – Protettivo per O-ring"** (Pict. 16A)**.**
Directions: wear protective gloves, apply small quantities of paste on your fingertips and spread a fine layer of paste over the part to be lubricated directly with your fingers.

SUCTION FILTER CAP **(Pict. 16B)**

Clean and sanitize the conduits with *STER 3 PLUS* according to the directions provided

- raise a tube to keep the suction system on;
- take off the filter cap (**13.2** - Pict. 13);
- lubricate the inner surface of the cap as shown in the pict.ure;
- fit the cap back onto the filter;

CAUTION: wear protective gloves
Always operate with the suction system on (tube raised).



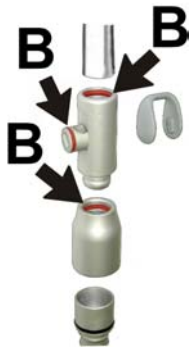
Pict. 16B - *Suction filter cap*

Pict. 16C – *Suction cannula hose connection*

SUCTION CANNULA HOSE CONNECTION
(Picts. 16C – 16D)

- raise a cannula to maintain suction
- remove the cannula body from its hose connection
- lubricate the O-Ring shown by arrow **A**
- lubricate the (red) (**B**) gasket by Vaseline
- insert a VF Control plus tablet inside the hose connection before fitting each cannula back in place

WARNING: wear protective gloves. always perform this operation with the suction on (cannula raised).



Pict. 16D – *Suction cannula body connection*

DENTAL INSTRUMENTS see specific instructions in Part - Operating Instruments- of this manual.

OPERATING LIGHT see the specific instructions in Part – Operating Lamp- of this manual.

ROUTINE MAINTENANCE PROGRAM

The manufacturer notes that all routine maintenance and sanitation of the dental unit must be performed EXCLUSIVELY with the products (lubricants included) specified by Castellini. It is forbidden to use any products other than those explicitly named in this manual and in the *"Protocol for Hygiene and Maintenance of the Dental Unit".*

The Manufacturer warns that any failure to comply with the above prescription will be considered improper use in contradiction with the manufacturer's directions and as a result will compromise the essential safety requisites.

DAILY

- Lubricate TURBINE with ***DAILY OIL***
- Lubricate MICRO-MOTOR HANDPIECE according to the handpiece manufacturer's directions
- Lubricate AIR MICRO-MOTOR with ***DAILY OIL***
- Lubricate FILTER CAP of the Suction System with protective paste ***S1 – Protettivo per O-Ring***
- Empty out condensation from GENERAL AIR FILTER

Note: the Turbine, Micro-motor handpiece and Air Micro-motor must also be lubricated before and after autoclave sterilization cycles

DAILY OIL
SPRAY W/ QUICK COUPLING CODE L0000945
SPRAY W/QUICK COUPLING CODE L0000946
SPRAY WITH SCREW CONNECTION CODE L0000950
SPRAY WITH SCREW CONNECTION CODE L0000951

WEEKLY

With ***S1 – Protective for O-Ring, lubricate***

- O-Ring of quick coupling of TURBINE (if present)
- O-Ring of coupling of MICRO-MOTOR HANDPIECE
  Connectors of internal section of SYRINGE

With ***Vaseline, lubricate***

- Red gaskets of ***SUCTION CANNULAS BODY CONNECTION***

PROTECTIVE PASTE S1
50 g CODE N500LP89

MONTHLY

- Check CRUSH-PREVENTION SAFETY systems of the Chair

YEARLY

- Replace filtering element of GENERAL AIR FILTER
- Replace cartridge of ***HPA*** FILTER (if present)
- Replace ***MWB*** cartridge (if present)
- Replace the (separate supply system) bottle at least once in a year
  CONTACT SERVICE CENTER for Scheduled Technical Maintenance

PRODUCTS TO BE USED WITH THE CASTELLINI DENTAL UNIT

RINSING AGENTS FOR SEPARATE SUPPLY SYSTEM

* **ISOTONIC SALINE SOLUTION** - OGNA S.p.A. 1000 ml disposable bottle to be connected to dental unit.
* **PURIFIED SOLUTION P.S.** - OGNA S.p.A. 1000 ml disposable bottle to be connected to dental unit.
  PHYSIOLOGICAL SOLUTION – Pharmaceutical product that may be used in the separate supply tank following sterilization of the latter in an autoclave.

PRODUCTS FOR AUTOSTERIL and S.H.D. SYSTEMS (WATERLINE AND SUCTION LINE TREATMENT)

* **Ster4Spray** - Chemical Powder Sterilizer.

  USE FOR AUTOSTERIL: in solution, following the indications on the label (16 – 20 grams of product in 1 litre of hot water 35 - 40 °C). The solution must be used after 15 minutes and within 24 hours.
  Disinfecting efficacy at different contact times: **2 minutes** (low), **5 minutes** (intermediate) **10 minutes** (high)

  ATTENTION: Do not use the solution to supply instrument sprays.

  USE FOR S.H.D.: (16 – 20 grams of product in 250 mL of hot water 35 - 40 °C). The solution must be used after 15 minutes and within 12 hours..

Ster4Spray
200 g CODE N500P140

* **PRODUCT TESTED TOR MWB SYSTEM: STERIDROLO** – MOLTENI – Chloramine T cristalline, box of 50 g- Pharmaceutical Product – Preparation of cartridge by the user: see "Routine Maintenance"
* **THER PRODUCTS FOR MWB SYSTEM**
  Commercial products with the same base: Aktiven – Chloraseptine – Chlorazene – Chlorazone – Clorina – Euclorina – Gansil – Gyneclorina – Halamid – Mianine – Tochlorine – Tolamine.
  Attention: Check that the product used complies with the following requirements:
  substance: pure Chloramine T, crystalline.
  Synonyms of the same substance: N.Chloro-4-methylbenzenesulfon-amide sodium salt, N-chloro-p-toluenesulfon-amide sodium, sodium p-toluenesulfon chloramide
  DANGER! AVOID substances with similar, but not identical names, e.g.:
  Dichloramine T, N, N dichloro-4-methylbenzenesulfonyl-amide sodium salt, sodium p-toluenesulfonyl dichloramide:
  IF USED IN THE MWB **SYSTEM IT REPRESENTS A HAZARD FOR PERSONS AND FOR THE EQUIPMENT**

Avoid powder products (non-crystalline) because they may come out of the MWB cartridge still undissolved

PRODUCTS FOR SANITIZING THE MEDICAL DEVICE

* **ETHYL ALCOHOL AT 70%** - Solution 70 % (70 parts Ethyl Alcohol + 30 parts Distilled Water)
  To be prepared on the spot by the user.
  Note: in the "Guidelines of Conduct for Health Personnel for Controlling HIV infections", Ministry of Health 6 April 1989, this substance is listed among the high-grade disinfectants effective against the HIV virus: "Ethyl Alcohol and Isopropyl Alcohol (...) deactivate HIV in a few minutes. They are not effective on bacterial spores. Alcohol is most effective at a concentration of 70%: higher or lower concentrations are less effective ".
* **STER 1 PLUS Castellini** – Decontaminant for surfaces of Castellini Medical Devices for dentistry. 1000 ml bottle
* **STER 3 PLUS Castellini** – Concentrated sanitizing liquid for cleaning the Surgical Suction System - 1000 ml bottle
* **ST-Surface Treatment Castellini –** Sanitizing protective detergent for Dental Chair and Stool Upholstery – 400 ml bottle
* **VF CONTROL PLUS Castellini** – Sanitizing anti-foaming tablet for surgical suction circuits
  Formats SMALL (240 1.7 g tablets) and MAGNUM (120 2.4 g tablets) - Use: in the suction system filter and in each suction cannula.
* **AUTOCLAVEABLE TANK** for separate supply system
* **PROTECTIVE SHIELDS:**
  Disposable covers for Chair headrest, backrest and seat
  Disposable adhesive cover for Control Panel
  Flexible autoclaveable shields for Cuspidor, Instrument Tray, tray, Handpiece Holder, Time Flushing receptacles
  Autoclaveable cover for Time Flushing Tub

PRODUCTS FOR MAINTENANCE

* **DAILY OIL Castellini** – Lubricating spray for daily turbine maintenance - Format: 200 ml cylinder
* **S1 Castellini - Protettivo per O-Ring** – Protective silicone paste - Format: 20 g. tube
* commercial **VASELINE**
* **SODIUM HYPOCHLORITE 5 ÷6% of Active Chlorine (commercial bleach) – DILUTED BEFORE USE**
  USE: to bleach flexible shields, 10% solution to be prepared by user on the spot (1 part bleach + 9 parts water)
* **AMUCHINA Electrolytic Chlorine Oxidizer – DILUTED BEFORE USE**
  USE: to bleach flexible shields, 10% solution to be prepared by user on the spot (1 part bleach + 9 parts water)

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PART II – OPERATING LAMP "LUNA"

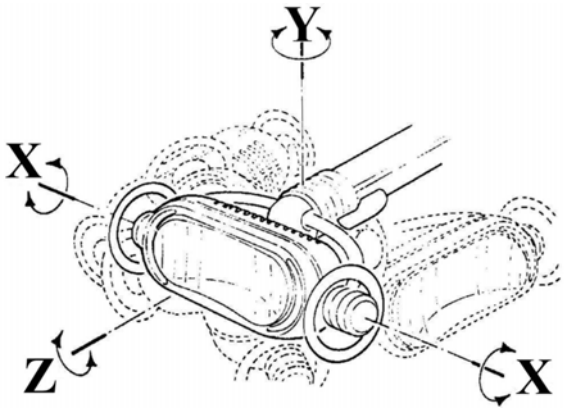
TECHNICAL DATA

MEDICAL DEVICE CLASS I - by 93/42 EEC Directive

ELECTRO-MEDICAL EQUIPMENT CLASS I TYPE B - By CEI EN 60601-1

THE EQUIPMENT CANNOT BE USED WHEN FLAMMABLE ANESTHETIC MIXTURES CONTAINING AIR OR OXIGEN OR NITROUS OXIDE ARE PRESENT

POWER SUPPLY	
MAXIMUM POWER INPUT	75 W
VOLTAGE TO THE BULB	12 V DC
HALOGEN BULB WITH AXIAL FILAMENT (OSRAM HALO STAR 64450S)	12 V - 75 W
CONTINUOUS OPERATION	continuous
LIGHTING PARAMETER	
LIGHTING AT 70 cm (I position)	20000 lux
COLOR POINT PROJECTION at 20000 lux	4000 K
LIGHT PROJECTION at 70 cm	20 X 10 cm
OPERATING LIGHT RANGE	
VERTICAL TRANSLATION (to the "Y" axis)	87 cm
"X" AXIS ROTATION	280°
"Z" AXIS ROTATION	60°
"Y" AXIS ROTATION	120°
ARTICULATED ARM ROTATION AS TO SUPPORT POLE	350°
SUPPORT POLE ROTATION AS TO THE UNIT	140°
MAXIMUM WHOLE WEIGHT	
UNIT VERSION	13 kg



Operating light head rotation axes

PICTURES AND DESCRIPTIONS

(Pict. 1)

1 - Operating handle
2 - Operating light head
3 - Self-balanced pantograph arm

Warning!
- Do not use the lamp if the front glass or the external head casing are visibly damaged or if unusual noises and/or vibrations are produced. Contact an authorised technical service centre.
- For the mouvement of the light use the handles (**1.1**) only.

Pict. 1 – *"LUNA" operating lamp*

REPLACEMENT OF THE BULB
(*12 V - 75 W HALOGEN* **type HALO STAR 64450S OSRAM) - (Pict. 2)**

Before executing this operation, it's necessary to take away the electric current from the unit:

- Bring the head (**1.2** – Pict. 1) in an accessible position for the operator, and orientate it up, as shown in the picture.

- Wait some minutes for the frontal glass cooling and hold it by hand, unscrewing the fixing screws (**2.1**) as to whole loosening: these screws go down without fall.

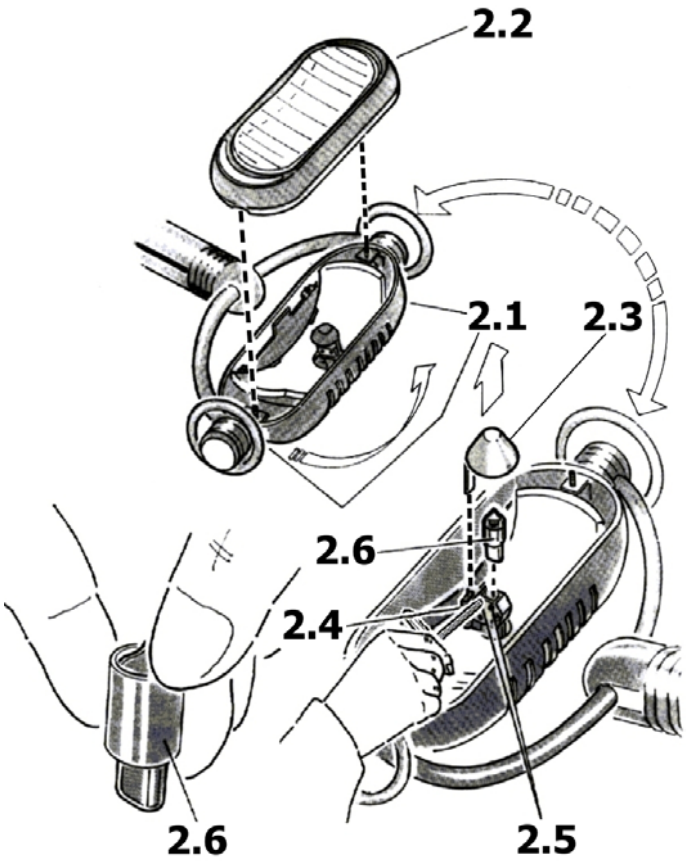
- After taking away the frontal glass, wait some minutes, and then be sure that the internal parts are cold to make any operations, because the whole lighting group reaches high temperatures during the operation.

- Unthread the lighting cover (**2.3**) from its guide (**2.4**), loosen the security dowels (**2.5**), using the hexagon wrench supplied, and take away the halogen bulb (**2.6**).

- Replace the old bulb with an identical one **avoiding to touch with the fingers the new bulb for not shorten the lenght** (to insert it into the bulb support, use, for protection, the plastic case of the wrapping).

- Screw the security dowels (**2.5**) and take away the plastic case.

- After inserting again the lighting cover (**2.3**) in its guide (**2.4**), mount the frontal glass in its side and screw the fixing screws (**2.1**), keeping it by a hand.



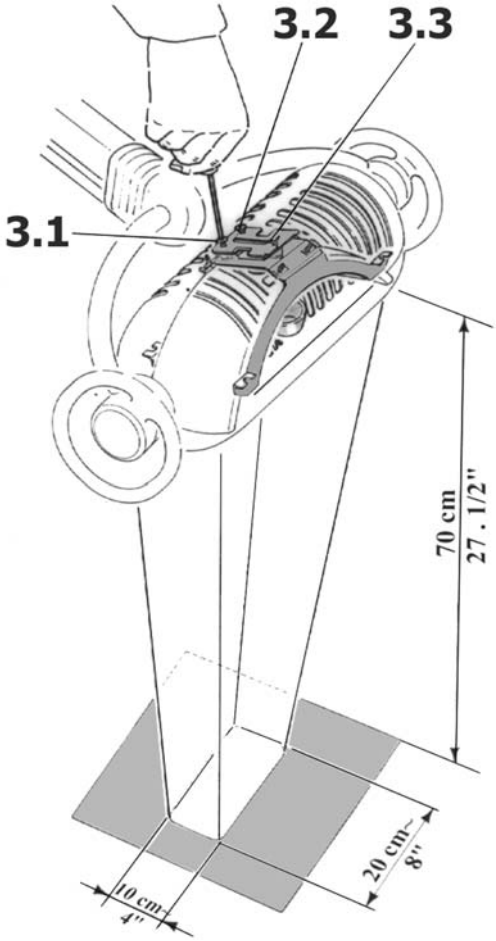
Pict. 2 – *Replacement of the bulb*

FOCUSING OF THE "LUNA" OPERATING LIGHT (Pict. 3)

The focusing of the "Luna" operating light (Pict. 3), is carried out by Castellini S.p.A, and the replacement of the bulb **doesn't** modify it;
In case of necessity, operate as follow:

-Switch on and rotate the operating light head to the floor and project the lighted beam perpendicularly upon a white drawing sheet 70 cm about far from the frontal glass.

-By means of a screwdriver adjust screws (**3.1** - **3.2** - **3.3**), which are accessible through the back slots, so as to the lighted image becoming a rectangular pattern 20 x 10 cm about.



Pict. 3 – *Focusing of the operating light*

CLEANING OF THE OPTICAL PARTS

Clean periodically the mirror and the frontal glass to prevent any luminosity level dropping.
This operation must be carried out when head is cold.
Use only ethyl denatured alcohol.
Dry surfaces carefully before switching on the operating light.

PANTOGRAPH ARM REGULATION (Pict. 4)

Whenever the head wouldn't stay in the position you desired, it would be necessary to repeat the regulation of pantographed arm self-balancement:

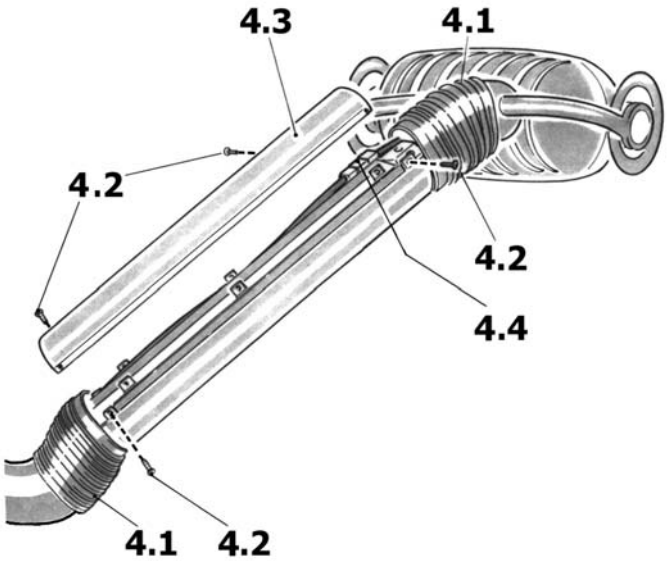
- Do place the head as shown in the picture.

- Unthread along the self-balanced arm the 2 rubber foldings (**4.1**).

- Unscrew and take away the 4 fixing screws (**4.2**) and remove the arm covering (**4.3**).

- Screwing coupling box (**4.4**, with a screwdriver or a pin) you shall increase it's spring tension; unscrewing coupling box, you'll decrease spring tension.

- Finally, you have to replace both arm covering that rubber foldings.

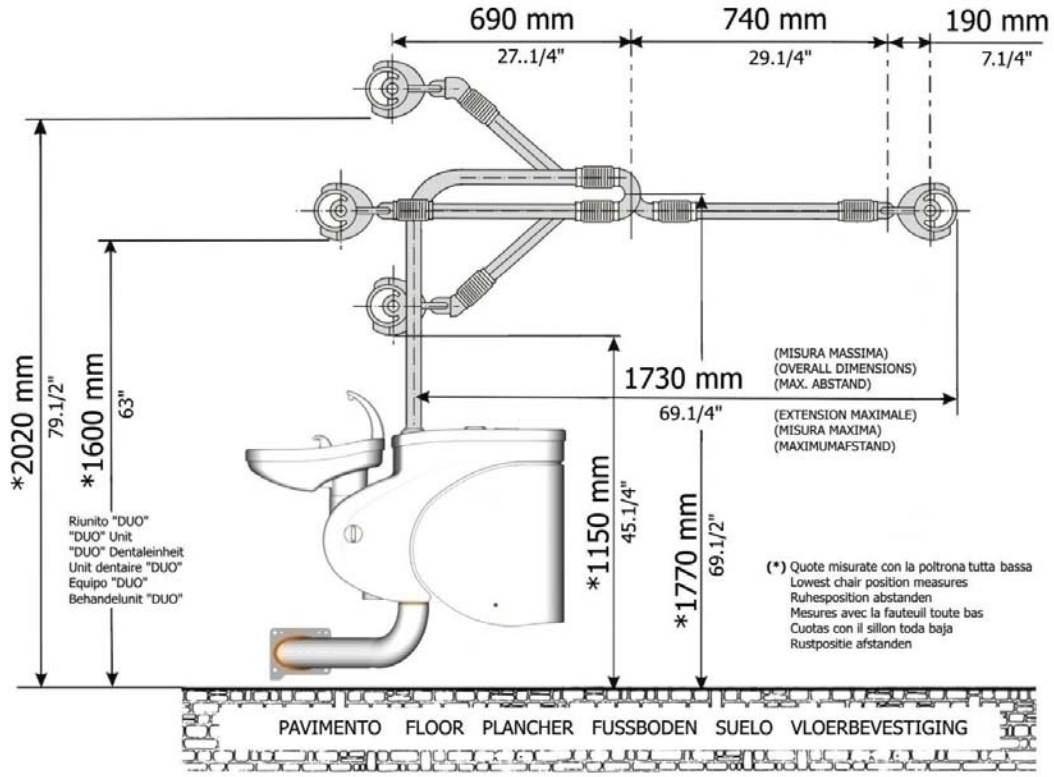


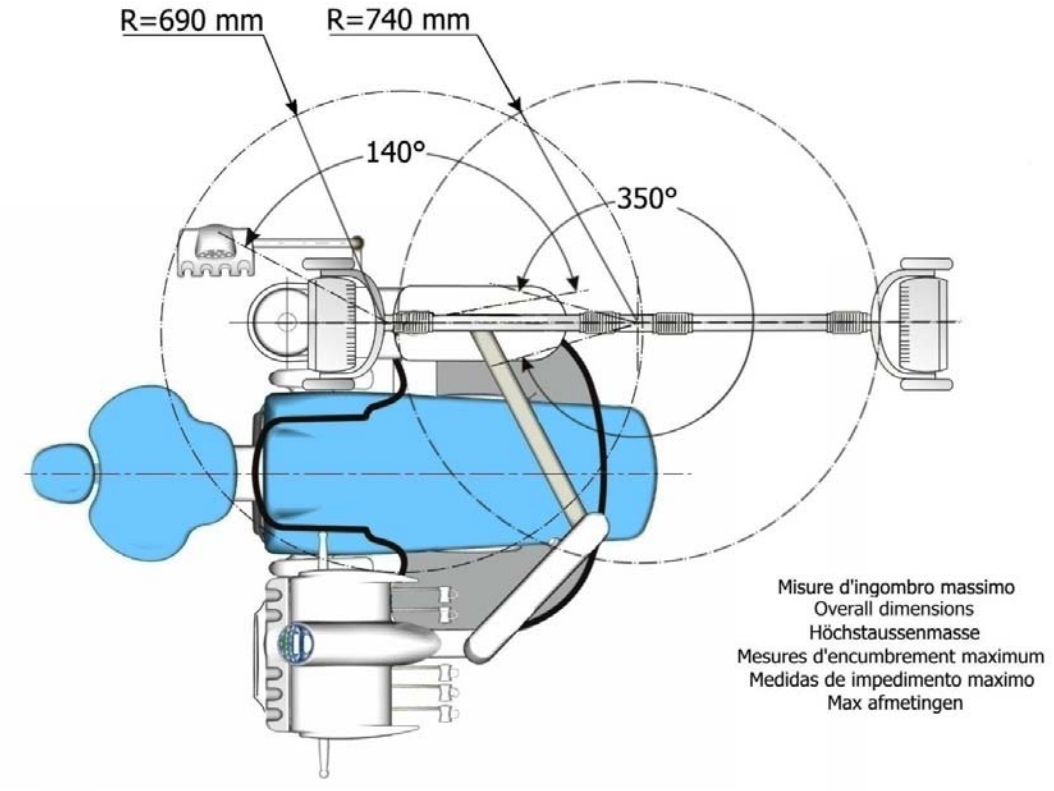
Pict. 4 - *Pantograph arm regulation*

"LUNA" operating light

versione applicata al riunito
an dem Anlage aufgesetzte Ausfuhrung
modelo aplicado a l'equipo dental

unit body fitting version
version appliquè a l'unit
behandelunitversie





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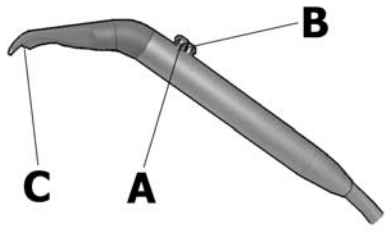
PART III – OPERATING INSTRUMENTS

"MULTISTERIL 2 TITANIUM" SYRINGE

GENERAL SPECIFICATION

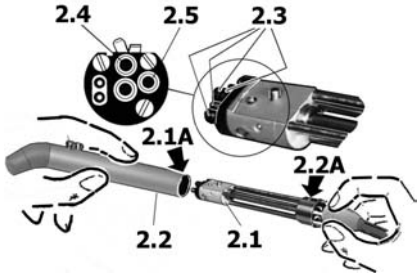


Pict. 1 – – *Overall view*

The **"Multisteril 2 Titanium"** syringe is available in three models: cold, warm and warm with an integrated device for lighting the operating area.
It allows supply of either water, air or spray (i.e. water and air simultaneously) by pressing control **A** (**water**), **B** (**air**) or **A** and **B** together (**spray effect**). See pict. 1.
Air supply may be adjusted according to the pressure applied on control B.
The nozzle may be rotated. It holds the bulb and the fiber optics (**C** - pict. 1) for lighting the operating field when requested,
The syringe has to be subjected to **intermittent operation** as follows: 10 s work, 5 min stand-by.

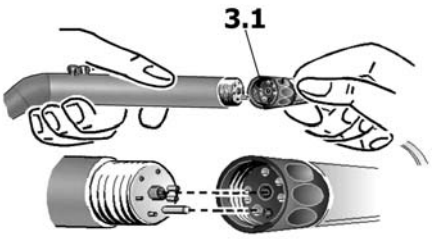
Warning! Before using the syringe be sure that nozzle and outside cover are correctly fitted on the syringe body.
Don't use the syringe if it is visibly damaged. Contact an authorized technical service centre.

CONNECTION TO THE UNIT



Pict. 2 – *Connection to the unit*

The **"Multisteril 2 Titanium"** syringe needs specific supply circuits for air, water and power: therefore it can be fitted only on specifically arranged dental units. Its eventual connection to not originally arranged units must be carried out by skilled personnel, authorised by Castellini S.p.A.



Pict. 3 – *Attachment to the unit*

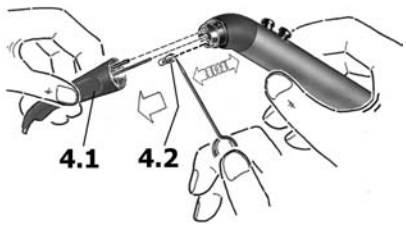
The dental equipment has been setted by Castellini S.p.A. to supply water and air with correct pressure for the syringe:

air pressure: **min 330 kPa (3.3 bar) max 460 kPa (4,6 bar)** measured in position **2.5** - pict. 2;
water pressure: **min 90 kPa (0.9 bar) max 140 kPa (1.4 bar)** measured in position **2.4** - pict. 2

Do not exceed in any case these pressure ranges.
After having fitted the syringe on its hose, tighten ring (**3.1** - pict. 3).

INTEGRATED LIGHTING DEVICE

The bulb will light on as soon as the syringe is lifted from the dental unit table; at the same time a jet of air will flow to remove the generated heat. Light will remain on till the syringe is placed on the unit table again.
The bulb must be supplied with max 3.5 Vdc.



Pict. 4 – *Replacing the bulb*

REPLACING THE BULB (Pict. 4)

Remove the nozzle (**5.1**) from the syringe outer body just pulling it off and, by means of a pointed device, remove the bulb (**5.2**).
Fit the new bulb into position coupling the two contacts with the socket contacts: the bulb fits properly only in this position.
Don't touch the bulb with bare hands. If this occurs, clean it with cotton and alcohol. **N.B.: The bulb life is approximately 50 hours**

USING SAFELY: rules and recommendations
To ensure that the equipment is used safely, the user must abide by the set standards of hygiene and professional diligence. The following points should also be kept in mind:
- During use, dust and fragments of material from the patient's mouth or the device being used may be thrust into the surrounding environment (organic and inorganic particles, metal dust, liquids, potentially infected fluids and biological materials):

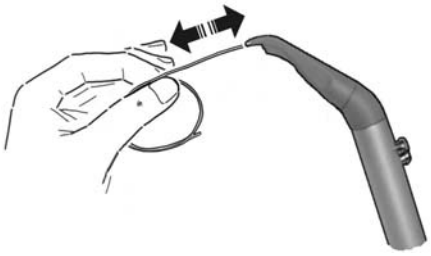
PERSONNEL MUST DULY PROTECT THEIR EYES, BREATHING PASSAGES, MOUTH AND SKIN by wearing safety glasses, face shields, masks and disposable gloves. Operate the suction system at high speed in all operations likely to result in a discharge of materials, dust and aerosols to minimise their dissemination. N.B.: it is not advisable to use drinking water to supply the dental unit, since it may lead to the formation of a biofilm in the waterlines and thus facilitate germ proliferation inside the unit itself; It is recommended to supply the unit exclusively with dedicated liquids (Isotonic Saline Solution or I.P.Purified Water) using the Separate Supply system.

SERVICING

It is indispensable to supply the syringe with air and water conveniently filtered. Regular maintenance of the filters in the unit and draining the condensate from the compressor tank is therefore recommemded.
Grease O-rings (**2.3** - pict. 2) with silicon lubricant S1 once a week. Wearing protective disposable gloves, apply a small amount of S1 on fingers and lubricate by it.

CLEANING, DISINFECTING, STERILIZING

ATTENTION: The instrument is supplied not sterile.
Before use sterilize according to the following specifications.
Use gauze or cotton soaked in ethyl alcohol at 70% to clean and disinfect syringe exterior.



Pict. 5 – – *Surgical application tip*

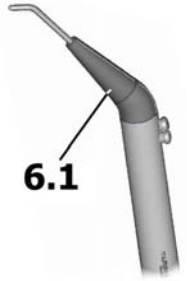
Don't soak the syringe directly in solution. Don't use an ultrasonic cleaner.
Clean fibre-optics terminal with alcohol-soaked cotton.
In case of irregular water output, clean nozzle using the proper wire provided.

Only the outside cover of the syringe (nozzle and handle together (2.1 - pict. 2) may be removed, just pulling it away from the inside body (2.2 - pict. 2), which remains connected to the hose) and sterilized in water steam autoclave up to 135 °C - 210 kPa (2.1 bar) for 20 min.
In order to maintain a proper level of hygienic safety autoclave after the use on each patient.

Don't remove the nozzle from the handle for sterilisation purpose.
Remove the outside cover of the siringe from autoclave immediately after the cycle.

Warning! **Pay attention not to press A and B controls (Pict. 1) when removing and fitting again the outside cover.**
When fitting the outside cover make sure that inner slot (2.1A) is in line with screw (2.2A - Pict. 2). The outside cover must be inserted all the way.

Important! **The nozzle (4.1 - Pict. 4) must be removed from the syringe body only when replacing the bulb.**



Pict. 6 – *Nozzle for surgical application*

Warning! **Check the autoclave periodically according to the manufacturer's prescriptions!**
Temperature exceeding the above stated limit may damage the handpiece!

The traditional tip (**4.1** – pict.. 4) may be replaced, *(subject to request)* with the surgical application tip (**6.1** – pict.. 6) by simply pulling it off the handle

TROUBLESHOOTING

- In the event of a **poor delivery of air and/or water**, do not try to adjust the pressure controls on the unit. It is possible to clean the water duct on the nozzle by means of the supplied steel wire (Pict. 5). If a result is not achieved, ask for Technical Assistance.
- In the event of water continuous **leakage from the syringe nozzle**, turn the main switch of the unit off and ask for Technical Assistance.
- In the event of **water leakage from the connection to the hose**, check that coupling ring (**3.1** - Pict. 3) is correctly tightened.
- In the event of **heating device failure**, ask for Technical Assistance.

Warning! The syringe nozzle may reach **excessive temperature** if the cooling air is not supplied s imultaneously when lighting the bulb on because of a device failure on the unit. In this event, turn the light off by means of the control on the unit and ask for Technical Assistance.

"HI–POWER 2 CERAMIC" – "TITANIUM GOLD 2" - "TITANIUM GOLD 2 MINIATURE" TURBINE

GENERAL TECHNICAL DATA

	Hi-Power 2 Ceramic/ Titanium Gold 2	**Titanium Gold 2 Miniature**
Speed	350.000 ÷ 366.000 rpm	380.000 ÷400.000 rpm
Air working pressure (handpiece)	260 ÷ 280 kPa (2.6 ÷ 2.8 bar)	280 ÷ 300 kPa (2.8 ÷ 3 bar)
Air delivery	48 ÷ 51 lt/min	44 ÷ 47 lt/min
Water pressure	70÷140 kPa (0.7÷1.4 bar)	70÷140 kPa (0.7÷1.4 bar)
Burr stem diameter	1.590 ÷ 1.600 mm (ISO 1797-1)	1.590 ÷ 1.600 mm (ISO 1797-1)
Max burr lenght	26 mm	19 mm
Min burr lock lenght	11.7	11.2
Max burr diameter	2 mm	2 mm
Classification:	IIa (93/42 EEC Directive)	

Note: The rotation velocity measurement unit SI is "rad/sec". **1 rad/sec =** $\frac{\pi}{30}$ **RPM**

Warning!:
- **High speed handpiece!**
- **An excessive pressure may damage the tooth!**
- **Cool the operating area conveniently!**
- **Stop the turbine immediately if the cooling media don't flow!**
- **Do not use burrs with dimensions exceding the above mentioned limits!**
- **Do not use worn or damaged burrs! Handle burrs with care wearing protective gloves!**
- **Castellini does not supply the burrs for the turbines and handpieces and PRESCRIBES the use of only burrs (or other similar tools) that bear the EC mark of conformity with EEC Directive 93/42.**
- **Before every use, check that the burr is correctly locked in the gripper (see section "BURR LOCKING").**
- **The burr release button becomes very hot if it is pushed while the turbine is running. Pay the greatest attention not to push it unintentionally against the Patient's oral cavity.**
- **Do not use the instrument if it is visibly damaged or if unusual noises and/or vibrations are produced. Contact an authorised technical service centre.**
- **For the use of this instrument the rubber dam must be applied on the patient.**

The high speed air turbine has to be subjected to intermittent operation: 20 min work, 10 min stand-by.

USING SAFELY*: rules and recommendations*

To ensure that the equipment is used safely, the user must abide by the set standards of hygiene and professional diligence.
The following points should also be kept in mind:
- During use, dust and fragments of material from the patient's mouth or the device being used may be thrust into the surrounding environment (organic and inorganic particles, metal dust, liquids, potentially infected fluids and biological materials):
PERSONNEL MUST DULY PROTECT THEIR EYES, BREATHING PASSAGES, MOUTH AND SKIN by wearing safety glasses, face shields, masks and disposable gloves.
Operate the suction system at high speed in all operations likely to result in a discharge of materials, dust and aerosols to minimise their dissemination.
N.B.: it is not advisable to use drinking water to supply the dental unit, since it may lead to the formation of a biofilm in the waterlines and thus facilitate germ proliferation inside the unit itself; **It is recommended to supply the unit exclusively with dedicated liquids** (Isotonic Saline Solution or I.P.Purified Water) using the Separate Supply system.

HANDPIECE CONNECTION

The handpiece must be connected to its hose by means of Castellini faston coupling which has four ways plus two electric contacts coupling section.

Pict. 1 – *Assembly/disassembly Castellini-faston handpiece*

CASTELLINI-FASTON HANDPIECE: ASSEMBLY AND DISASSEMBLY **(Pict. 1)**

Screw in the faston tightly to the flexible handpiece tubing.
Lubricate O-Rings with specific S1 lubricant. Fit the handpiece over the faston couplin check that it is firmly connected pulling it by hand while rotating it.
To remove the handpiece, pull back and slide off by turning it gently. *Don't remove the handpiece while the burr is rotating!*

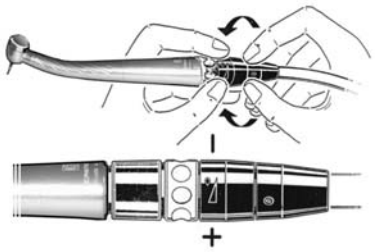
Pict. 2 - *Regulating driving air pressure*

REGULATING DRIVING AIR PRESSURE (Pict. 2)

Connect the fitting with the pressure gauge between the tubing and faston. Operate the high-speed handpiece and check pressure (Pict. 2).

Driving air-pressure: 260 ÷ 280 kPa (2.6 ÷ 2.8 bar) for Hi-Power 2 Ceramic e Titanium Gold 2.

280 ÷ 300 kPa (2,8÷3 bar) for Titanium Gold 2 Miniature.



Pict. 3 - *Regulating spray water*

REGULATING SPRAY WATER (Pict. 3)

Use the ring on the tubing coupling to control water supply.

BURR LOCKING

***Burr locking: push-button type* (Pict. 4)**

Simply press down with thumb in the centre of handpiece head back cover to remove and introduce a new burr, and lift thumb to lock in place.

Pict. 4 - *Burr locking*

Check the correct fitting of the burr pulling it by hand. Wear protective gloves!

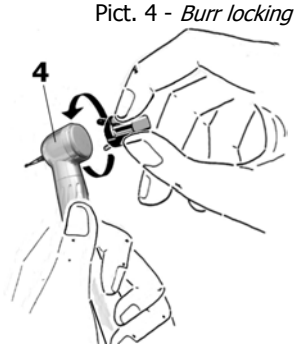
Push burr all the way in for correct fitting. Always use burrs with 1.590-1.600 mm standard stem (ISO 1797-1).

To prevent damage, NEVER release burr until high-speed handpiece stops turning.

***REPLACING HIGH SPEED HANDPIECE ROTOR (*Picts. 5 - 6)**

The rotor is field replaceable. Unscrew cap of head (**4**) with the key (pict.5). Before fitting a new rotor, make sure that O-Rings (**5**) are in their correct position, i.e. in the head and cap. Now screw on cap tightly.

When replacing the rotor replace also the O-Rings and the wavy washer in the cap (Pict. 6).

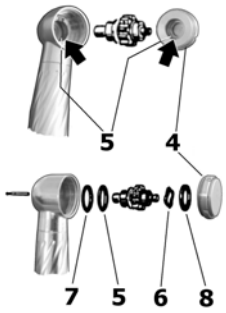


Pict. 5 - *Replacing high speed handpiece rotor*

LIGHTING DEVICE

The halogen microlamp on the faston coupling has to be powered with a **maximum 3.5 Vdc** source. NEVER touch it with bare hands. If this occurs, clean lamp with cotton wool and alcohol.

Use the control on the dental unit table to adjust light intensity. The lamp lights automatically when the high-speed handpiece is working: when it stops, the light will stay on for a set time (up to 20 s maximum).

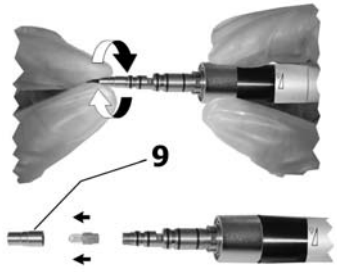


Pict. 6 - *replace also the O-Rings*

***REPLACING LAMP* (Pict. 7)**

Disconnect the handpiece from faston coupling. Unscrew the front part (**9**) of the faston coupling and remove bulb. Put a new bulb in place and screw (**9**) again.

N.B.: The bulb life is approximately 50 hours



Pict. 7 - *Replacing lamp*

***LUBRICATING HIGH SPEED HANDPIECE* (Pict. 8)**

Use the spray-can "DAILY OIL" to **lubricate at least once daily and in the hereafter indicated circumstances the high-speed handpiece**.

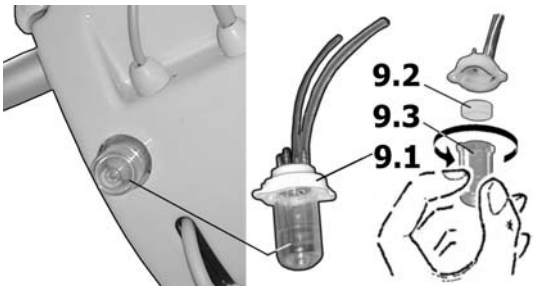
Follow the instructions on can, remembering to apply lubricant in two short sprays.

Pict. 8 – *Handpiece lubrication*

Eliminate any excess lubricant before use by operating the handpiece (hold it over cuspidor) and wiping in with gauze and cotton. Do this with burr in place to prevent mechanical damage to handpiece.

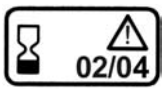
In addition it is imperative to lubricate as follows:
-Before and after autoclaving
-Before and after every AUTOSTERIL disinfecting or sterilizing cycle.

Regular use of this spray lubricant assures best working order.
Proceed as shown in Pict. 8.



Pict. 9 - *Condensation filter disassemble*

Should you observe a significant increase in the build up of condensation inside the filter (**9.1** – Pict. 9) situated beneath the dental unit instrument tray, remove the cover (**9.2**) by turning it clockwise about a ¼ of a turn, replace the filtering element (**9.3**) and eliminate the liquids present; **the filtering element must be replaced for the first time within a year of the date shown on the cover and at least once a year thereafter.**



WARNING DANGER OF BACTERIAL CONTAMINATION!
The liquid condensate inside the cover must be handled and disposed of by personnel wearing disposable gloves and eye protection and always in compliance with Sanitary Regulations for the disposal of Waste associated with a High Biological Hazard.
Before replacing the cover, thoroughly wash and disinfect it. Do not use products containing denatured alcohol, since the material is not alcohol resistant.

CLEANING, DISINFECTING, STERILIZING

ATTENTION: The instrument is supplied not sterile.
Before use sterilize according to the following specifications.
Wear protective gloves! Remove the burr!
Use gauze or cotton soaked in ethyl alcohol at 70% to clean and/or disinfect handpiece exterior. **DO NOT soak handpiece directly in solution.** DO NOT use an ultrasonic cleaner.
Clean the spray nozzle after each operation: use the steel wire supplied and the syringe to blow on the nozzle. Clean fibre-optic terminals with alcohol-soaked gauze.
In order to maintain a proper level of hygienic safety handpieces must be sterilized in autoclave with water steam up to 135°C, 210 kPa (2.1 bar) for 20 min, after the use on each patient.. Never sterilize handpieces in dry-heat sterilizers.
Before and after each autoclaving, lubricate handpiece and clean fibre-optic terminals. Never leave handpieces in autoclave overnight: always remove them from autoclave after each cycle.
Warning! Check the autoclave periodically according to the manufacturer's prescriptions!
Temperature exceeding the above stated limit may damage the handpiece!

SERVICING THE CASTELLINI FASTON CONNECTION
Lubricate at least weekly the O-Rings with silicone lubricant S1, distributed by Castellini S.p.A. Wearing protective disposable gloves, apply a small amount of S1 on fingers and use it for lubricating.
If faston coupling leaks, replace the O-Rings: grasp them with two fingers and slide them along one side and forward to remove them. Slip on the new rings, fit them properly into the grooves and lubricate.
Important! The faston coupling **CANNOT** be sterilized in autoclave.

IMPORTANT

WE PRESCRIBE TO:
STOP WORKING IMMEDIATELY IN THE EVENT OF UNUSUAL NOISE, STRONG VIBRATION OR IF BUR IS NOT KEPT FIRMLY IN POSITION.

TROUBLESHOOTING

PROBLEM	LIKELY CAUSE	REMEDY
Low power on high speed handpiece; abrupt rpm loss	Irregular air pressure	Check and adjust
	Air leaks at tubing coupling	Tighten coupling ring or replace O-Rings if worn
	Blocked air way	Check tubing or replace it
	Handpiece needs lubrication	Lubricate repeatedly between brief runs
	Worn out bearings	Replace rotor assembly
Very noisy handpiece	Misaligned or very worn bur	Fit in new bur
	Worn out bearings	Replace rotor assembly
Defective attaching or detaching bur: key-type bur clamp	Square section of shaft rounded	Replace rotor assembly
	Worn key	Order new key
	Worn clamp	Replace clamp
	Not-calibrated bur diameter	Use only quality burs
	Curved bur	Use new bur
Defective attaching or detaching bur: push-button clamp	Not-calibrated bur diameter	Use only quality burs
	Curved bur	Use new bur
	Worn clamp	Replace rotor assembly
	Button not fully pressed down	Push the button at centre all the way
Defective spray		Detach handpiece, hold tube over cuspidor and blow out air and water. N.B. Water regulator must be open
	Blocked nozzles	Clean handpiece: use supplied steel wire carefully so as not to ovalize nozzles.
No light in fibre-optic handpiece	Burned out lamp	Replace lamp
	Defective tube coupling	Tighten fully the handpiece tube coupling ring, or, if not enough, replace tube assembly
Water leaks from coupling	Light control at minimum	Adjust control on the unit table
	Loose tubing	Tighten fully coupling ring
	Worn faston O-Rings	Replace and lubricate them.

"IMPLANTOR STERIL" - "IMPLANTOR LF STERIL" MICROMOTOR

IMPLANTOR STERIL

Without fiber optics

IMPLANTOR LF STERIL

With fiber optics

GENERAL TECHNICAL DATA

Micromotor supply	1 ± 0,2 ÷ 24 ± 1 Vdc
Fiber optic supply	3,5 ± 0,2 Vdc
Air supply	at the exit of the syringe 330÷460 kPa (3.3 ÷ 4.6 bar)
Air cooling consumption:	38 Nl/1 min
Spray air consumption:	~ 6 Nl/1 min
Water supply:	90÷140 kPa (0.9 ÷ 1.4 bar) at the exit of the syringe
Spray water consumption:	≥ 35 ml/min
Max Speed	40.000 ± 10% rpm
Min Speed	200 ÷600 rpm
Handpieces compliance	Compliance with the ISO 3964 standard (and INTRAmatic LUX, for Implantor LF Steril type only)
Cooling	Forced air
Intermittent operation	5 min work - 20 min stand-by
Classification:	IIa (93/42 EEC Directive)

Note: The rotation velocity measurement unit SI is "rad/sec". **1 rad/sec =** $\frac{\pi}{30}$ **RPM**

Warning!

- **Implantor micromotors must be feeded exclusively by Castellini dental unit, with original supply hoses.**
- **Before every use, check that the handpiece is firmly secured to the micromotor and that the burr is correctly locked in the handpiece gripper.**
- **Cool the operating area conveniently!**
- **Castellini does not supply the burrs for the turbines and handpieces and PRESCRIBES the use of only burrs (or other similar tools) that bear the EC mark of conformity with EEC Directive 93/42.**
- **Do not use the instrument if it is visibly damaged or if unusual noises and/or vibrations are produced. Contact an authorised technical service centre.**
- **For the use of this instrument the rubber dam must be applied on the patient.**
- **A cooling air stream through the hose is indispensable during the motor running.**
- **Do not change the technical parametrer of the functionning.**

USING SAFELY: rules and recommendations

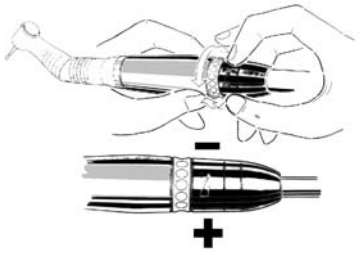
To ensure that the equipment is used safely, the user must abide by the set standards of hygiene and professional diligence. The following points should also be kept in mind:

- During use, dust and fragments of material from the patient's mouth or the device being used may be thrust into the surrounding environment (organic and inorganic particles, metal dust, liquids, potentially infected fluids and biological materials):

PERSONNEL MUST DULY PROTECT THEIR EYES, BREATHING PASSAGES, MOUTH AND SKIN by wearing safety glasses, face shields, masks and disposable gloves.

Operate the suction system at high speed in all operations likely to result in a discharge of materials, dust and aerosols to minimise their dissemination.

N.B.: it is not advisable to use drinking water to supply the dental unit, since it may lead to the formation of a biofilm in the waterlines and thus facilitate germ proliferation inside the unit itself; **It is recommended to supply the unit exclusively with dedicated liquids** (Isotonic Saline Solution or I.P.Purified Water) using the Separate Supply system.



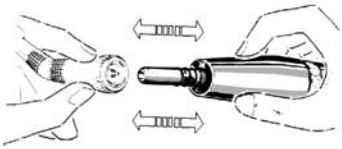
Pict. 1 – *Water spray regulation*

REGULATION

The input for the micromotor must be provided by the special Castellini stabilized power supply box - inside the unit - and the relative cable and wiring.
To control speed or change direction of rotation, adjust the controls on the unit.
The amount of water for the spray is easily regulated by opening or closing the control on the pipe connection, as shown in pict. 1.
To cut off the spray, adjust the controls on the unit.

CONNECTION TO THE SUPPLY HOSE

It is advisable to take off the outside cover as shown in pict. 3.
Place the motor near the hose mating the two spray tubes (the long ones) with the two steel sockets on the hose connection (Pict. 4).
Push the motor against the hose and screw tight the locking ring. Place cover (**1**) again on to the motor and push until it clicks.



Pict. 2 - *Connecting and disconnecting handpiece*

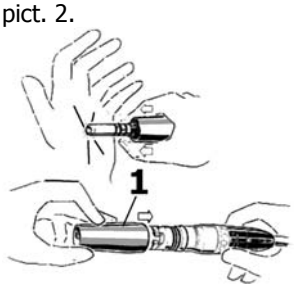
CONNECTING AND DISCONNECTING HANDPIECES

Handpieces compling with ISO 3964 or INTRAmatic ® Lux type (these ones only for Implantor Steril and Implantor LF Steril) may be fitted.
Fit the handpiece over the connection stem and push until it clicks. Be sure the handpiece can swivel freely. Damaged or worn handpieces are not be used.
For disconnecting a handpiece pull it out, as shown on pict. 2.

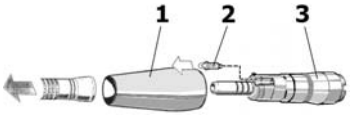
Pict. 4 – *Connection to the supply hose*

LIGHTING DEVICE (Only for Implantor LF Steril)

The lighting device must be supplied with max 3.5 Vdc. Use the control on the dental unit table to adjust light intensity (only if it's present). The handpiece lights up automatically when the micromotor is running: when it stops, the light will stay on for a set time (variable to a 20 s max).



Pict. 3 – *Removing carter*



Pict. 5 - *Replacing bulb*

REPLACING BULB (Pict. 5)

Take off the outside cover (**1**). Remove bulb and replace a new one paying attention not to touch it with bare hands. If this occurs, clean lamp with cotton wool and alcohol. **N.B.: The bulb life is approximately 50 hours**

SERVICING

NEVER LUBRICATE THE ELECTRICAL MICROMOTOR! Pay attention that the lubrication oil for handpieces doesn't drip into the motor body.
At least once a week remove the outside cover and lubricate the two O-rings on the micromotor body and the three spray seal rings on the handpiece connection stem (pict. 2): use the specific grease S1 distributed by CASTELLINI S.p.A. Wearing protective disposable gloves, apply a small amount of S1 on fingers and lubricate by it.
Any other technical assistance to the motor must be carried out by specialized personnel, authorized by CASTELLINI S.p.A.

CLEANING, DISINFECTING, STERILIZING

ATTENTION: The instrument is supplied not sterile.
Before use sterilize according to the following specifications.
The outside cover (**1** – Pict. 3)of the motor may be cleaned and disinfected by means of cotton soaked in ethyl alcohol at 70%. Also, it may be taken off as shown in picture and sterilized in a steam autoclave up to 135 °C, 210 kPa (2.1 bar) for 20 min.

IMPORTANT: DO NOT AUTOCLAVE THE WHOLE MICROMOTOR!
DO NOT SOAK THE MICROMOTOR DIRECTLY IN SOLUTION!
WARNING! Check the autoclave periodically according to the manufacturer's prescriptions!
Temperature exceeding the above stated limit may damage the handpiece!

TROUBLE SHOOTING

PROBLEM	PROBABLE CAUSE	SUGGESTED SOLUTION
Motor fails to rotate and no voltage at hose exit	Burnt out fuse in power supply unit	Change fuse
	Power supply box failure	Seek technical assistance
	Supply line failure	Seek technical assistance
Motor fails to rotate but there is voltage at hose exit	Motor is stuck	Seek technical assistance
	Handpiece is stuck	Remove, clean and grease handpiece. Send handpiece to manufacturer
Motor rotates, but speed cannot be regulated	Foot control potentiometer failure	Change potentiometer Seek technical assistance
	Stabilized power supply unit failure	Seek technical assistance
Motor run is intermittent	Supply cable failure	Change supply cable
	Damaged bearings	Seek technical assistance
Motor fails to provide sufficient power	Power supply unit failure / Motor failure	Seek technical assistance
The motor heats up too much	Inadequate cooling air	Seek technical assistance
Only the motor rotates but not the bur	Handpiece is fitted incorrectly	Remove handpiece and re-fit correctly
	Handpiece is broken-down	Send handpiece to manufacturer
	Connection joint damaged	Seek technical assistance
Handpiece rotates on its attachment	Handpiece is stuck	Remove, clean and grease handpiece. Send handpiece to manufacturer
Handpiece cannot be locked on the connection stem	Handpiece damaged	Change handpiece
	Latch damaged	Seek technical assistance
Water leakage from handpiece	Worn or damaged seal rings	Change the rings or seek technical assistance
Water leakage from pipe connection	Worn or damaged seal rings	Change the rings or seek technical assistance

IMPORTANT

WE PRESCRIBE TO:
STOP WORKING IMMEDIATELY IN THE EVENT OF UNUSUAL NOISE, STRONG VIBRATION OR IF BUR IS NOT KEPT FIRMLY IN POSITION.

"IMPLANTOR 2LF" MICROMOTOR

GENERAL TECHNICAL DATA

Input	32 Vcc max
Max Speed	50.000±10% rpm
Min Speed	200 ±10% rpm
Max torque	4 Ncm
Cooling	Forced air
Intermittent operation	5 min work - 25 min stand-by
Air supply	420 ± 20 kPa (4,2 ± 0,2 bar) at the exit of the syringe
Water supply	120 ± 20kPa (1,2 ± 0,2 bar) at the exit of the syringe
Air cooling consumption	~ 33 Nl/min
Spray air consumption:	~ 5 Nl/min
Spray water consumption:	min 35 cc/min
Classification:	IIa (93/42 EEC Directive)

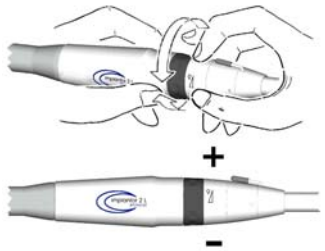
Note: The rotation velocity measurement unit SI is "rad/sec". **1 rad/sec =** $\frac{\pi}{30}$ **RPM**

WARNING!

- Before every use, check that the handpiece is firmly secured to the micromotor and that the burr is correctly locked in the handpiece gripper.
- Cool the operating area conveniently!
- Only handpieces and burrs (or other similar tools) EC-marked according to Directive 93/42 EEC must be used.
- Do not use the instrument if it is visibly damaged or if unusual noises and/or vibrations are produced. Contact an authorised technical service centre.
- For the use of this instrument the rubber dam must be applied on the patient.
- A cooling air stream through the hose is indispensable during the motor running.
- Do not change the technical parametrer of the functionning.

USING SAFELY: rules and recommendations

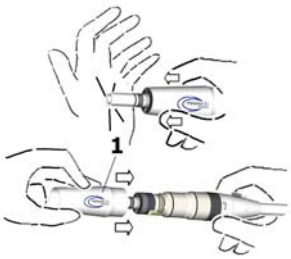
To ensure that the equipment is used safely, the user must abide by the set standards of hygiene and professional diligence. The following points should also be kept in mind:
- During use, dust and fragments of material from the patient's mouth or the device being used may be thrust into the surrounding environment (organic and inorganic particles, metal dust, liquids, potentially infected fluids and biological materials):
PERSONNEL MUST DULY PROTECT THEIR EYES, BREATHING PASSAGES, MOUTH AND SKIN by wearing safety glasses, face shields, masks and disposable gloves.
Operate the suction system at high speed in all operations likely to result in a discharge of materials, dust and aerosols to minimise their dissemination. **N.B.: it is not advisable to use drinking water to supply the dental unit**, since it may lead to the formation of a biofilm in the waterlines and thus facilitate germ proliferation inside the unit itself; **It is recommended to supply the unit exclusively with dedicated liquids** (Isotonic Saline Solution or I.P.Purified Water) using the Separate Supply system.



Pict. 1 – *Water spray regulation*

REGULATION

The input for the micromotor must be provided by the special Castellini stabilized power supply box - inside the unit - and the relative cable and wiring.
To control speed or change direction of rotation, adjust the controls on the unit.
The amount of water for the spray is easily regulated by opening or closing the control on the pipe connection, as shown in pict. 1.
To cut off the spray, adjust the controls on the unit.



Pict. 3 – *Carter disassemble*

Pict. 2 – *Connection to the supply hose*

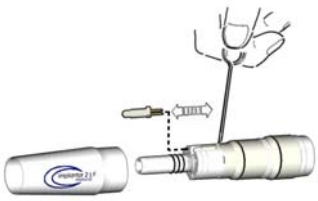
CONNECTION TO THE SUPPLY HOSE

It is advisable to take off the outside cover as shown in pict. 3.
Place the motor near the hose mating the two spray tubes (the long ones) with the two steel sockets on the hose connection (pict. 4).
Push the motor against the hose and screw tight the locking ring.
Place cover (**1**) again on to the motor and push until it clicks.

Pict. 4 - *Connecting and disconnecting handpieces*

***CONNECTING AND DISCONNECTING HANDPIECES* (Pict. 4)**

Handpieces compling with ISO 3964 or INTRAmatic ® Lux type may be fitted.
Fit the handpiece over the connection stem and push until it clicks. Be sure the handpiece can swivel freely. Damaged or worn handpieces are not be used.
For disconnecting a handpiece simply pull it out, as shown on pict. 2.



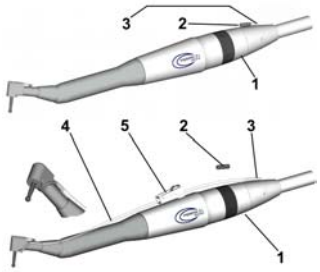
Pict. 5 - *Replacing bulb*

LIGHTING DEVICE

The lighting device must be supplied with max 3.5 Vdc. The handpiece lights up automatically when the micromotor is running: when it stops, the light will stay on for a set time (variable to a 20 s maximum).

***REPLACING BULB* (Pict. 5)**

Take off the outside cover and pull out the lamp with a little screwdriver or another tool. Connect the lamp as to the bottom of its seat. **N.B.: The bulb life is approximately 50 hours**



Pict. 6 - *Replacing bulb*

***USING THE LOW-SPEED MOTOR WITH EXTERNAL COOLING FLUID* (Pict. 6)**

1) Move the ring nut (**1**) into the closed position;
2) remove the cap (**2**) from the connector (**3**) and connect one end of the tube (**4**) in its place;
3) connect the other end of the tube (**4**) to the external connector on the handpiece;
4) adjust flow by means of the regulator (**5**).

To switch back to the internal cooling fluid conpict.uration, disconnect the tube (**4**) and replace the cap (**2**) on the connector (**3**). Adjust flow with the ring nut (**1**).
To replace the tube (**4**), hold the wheel of the regulator (**5**) in the completely open position. Then remove the tube and replace it with a new one.

The tube (**4**) and regulator (**5**) may be sterilised in a steam autoclave at 135 °C, 210 kPa (2,1 bar) for 20 minutes. They should be autoclaved after use on each patient.

N.B.: After use of a potentially encrusting solution, we prescribe to wash the hydraulic circuit with a water flow

SERVICING

NEVER LUBRICATE THE ELECTRICAL MICROMOTOR! Pay attention that the lubrication oil for handpieces doesn't drip into the motor body.
At least once a week remove the outside cover and lubricate the two O-rings on the micromotor body and the three spray seal rings on the handpiece connection stem (pict. 2): use the specific grease S1 distributed by CASTELLINI S.p.A. Wearing protective disposable gloves, apply a small amount of S1 on fingers and lubricate by it.
Any other technical assistance to the motor must be carried out by specialized personnel, authorized by CASTELLINI S.p.A.

CLEANING, DISINFECTING, STERILIZING

ATTENTION: The instrument is supplied not sterile.
Before use sterilize according to the following specifications.
The outside cover of the motor may be cleaned and disinfected by means of cotton soaked in ethyl alcohol at 70%. Also, it may be taken off as shown in pict. 3 and sterilized in a steam autoclave up to 135 °C, 210 kPa (2.1 bar) for 20 min. **In order to maintain a proper level of hygienic safety, autoclave after the use on each patient. Clean and desinfect prior to sterilizing.**

IMPORTANT: DO NOT AUTOCLAVE THE WHOLE MICROMOTOR!
DO NOT SOAK THE MICROMOTOR DIRECTLY IN SOLUTION!

Warning! Check the autoclave periodically according to the manufacturer's prescriptions!

TROUBLE SHOOTING

PROBLEM	PROBABLE CAUSE	SUGGESTED SOLUTION
Motor fails to rotate and no voltage at hose exit	Burnt out fuse in power supply unit	Change fuse
	Power supply box failure	Seek technical assistance
	Supply line failure	Seek technical assistance
Motor fails to rotate but there is voltage at hose exit	Motor is stuck	Seek technical assistance
	Handpiece is stuck	Remove, clean and grease handpiece. Send handpiece to manufacturer
Motor rotates, but speed cannot be regulated	Foot control potentiometer failure	Change potentiometer Seek technical assistance
	Stabilized power supply unit failure	Seek technical assistance
Motor run is intermittent	Supply cable failure	Change supply cable
	Damaged bearings	Seek technical assistance
Motor fails to provide sufficient power	Power supply unit failure / Motor failure	Seek technical assistance
The motor heats up too much	Inadequate cooling air	Seek technical assistance
Only the motor rotates but not the bur	Handpiece is fitted incorrectly	Remove handpiece and re-fit correctly
	Handpiece is broken-down	Send handpiece to manufacturer
	Connection joint damaged	Seek technical assistance
Handpiece rotates on its attachment	Handpiece is stuck	Remove, clean and grease handpiece. Send handpiece to manufacturer
Handpiece cannot be locked on the connection stem	Handpiece damaged	Change handpiece
	Latch damaged	Seek technical assistance
Water leakage from handpiece	Worn or damaged seal rings	Change the rings or seek technical assistance
Water leakage from pipe connection	Worn or damaged seal rings	Change the rings or seek technical assistance

IMPORTANT

WE PRESCRIBE TO:
STOP WORKING IMMEDIATELY IN THE EVENT OF UNUSUAL NOISE, STRONG VIBRATION OR IF BUR IS NOT KEPT FIRMLY IN POSITION.

Appendix

RESEARCH PROJECT CONDUCTED BY PROF. ELISABETTA COTTI AT THE UNIVERSITY OF CAGLIARI

"in vitro" and "in vivo" trials.
Instrumentation: Castellini Implantor 2LF micromotor and Sybron 18:1 geared angle handpiece

1) *Trial using Mtwo* root canal instruments (Sweden & Martina)

- Survey with K flex 08-10-15

Canal up to 20 mm: torque 35%
Canal greater than 20 mm and up to 24 mm: torque 40 - 50%
Canal greater than 24 mm: torque 50-55%
} Mtwo 10.04 – 15.05

Canal up to 20 mm: torque 40 - 50%
Canal greater than 20 mm and up to 24 mm: torque 50 - 65%
Canal greater than 24 mm: torque 65 - 75%
} Mtwo 20 – 25.06

2*) trial with K3* (Sybron) root canal instruments

- Survey with K flex 08-10-15-20

Orifice opener 25.10: torque 40%
Orifice opener 25.08: torque 35%
35 .06 to 3-4 mm from WL. } torque 35 - 45% for canals smaller than 20 mm
30 .06 to 2-3 mm from WL. } torque 45 - 65% for canals between 20 mm and 24 mm
25 .06 to 1-2 mm from WL. } torque 65 - 75% for canals greater than 24 mm
20 .06 to WL.

W.L. = working length

The necessary torque values that allowed the M2 and K3 to work adequately are obtained on the basis of the length of the canals. The canals were divided into 3 groups, with increasing torque according to length of the canal. The evaluation does not take into account the torque of the canal curves as they cannot be standardised, the values described therefore have variables given by the curve (increases the torque required) and the length variable according to the group it belongs to (for example between 20 and 24 mm).

These values were obtained by working firstly on extracted teeth and subsequently on patients. The torque values were obtained by working the instruments slightly in and out of the canal and applying slight pressure during introduction. In practice, the instruments worked in an almost passive way without exerting particularly intense forces. As both instruments are manufactured with a variable coil pitch, we did not observe excessive twisting phenomena inside the canals during instrumentation, the instruments often worked almost alone making their way along. The breaking point was never reached (which also depended on other variables), the values we obtained are in our opinion close to the minimum torque limit that allows the instrument to work without being blocked inside the canal.

"PIEZOSTERIL 5" - "PIEZOLIGHT 5" SCALER HANDPIECE

GENERAL TECHNICAL DATA

Electrical supply	34 Vdc
Max Input power	15 W
Frequency	25.000 ÷ 32.000 Hz
Intermittent operation	20 min work – 10 min stand-by
Water supply	90 ÷ 140 kPa (0,9 ÷ 1,4 bar) at the exit of the syringe
Classification:	IIa (93/42 EEC Directive)

WARNING!

- Before every use check that the tip is correctly locked on the handpiece (see section "USING THE HANDPIECE").
- Cool the operating area conveniently!
- Do not use the instrument if the tip or handpiece are visibly damaged or if unusual noises and/or vibrations are produced. Contact an authorised technical service centre.
- For the use of this instrument the rubber dam must be applied on the patient. In treatment procedures with tips that do not allow application of a dam, the patient must be instructed to breathe through his/her nose during treatment.
- High frequency ultrasonic vibrations may interfere with pace-maker operation. Before treating pace-maker carriers, consult the pace-maker manufacturer.
- During the working, this unit will not cause radio interference to the electric network.

USING SAFELY: rules and recommendations

To ensure that the equipment is used safely, the user must abide by the set standards of hygiene and professional diligence.
The following points should also be kept in mind:
- During use, dust and fragments of material from the patient's mouth or the device being used may be thrust into the surrounding environment (organic and inorganic particles, metal dust, liquids, potentially infected fluids and biological materials): **personnel must duly protect their eyes, breathing passages, mouth and skin** by wearing safety glasses, face shields, masks and disposable gloves.
- Operate the suction system at high speed in all operations likely to result in a discharge of materials, dust and aerosols to minimise their dissemination.

N.B.: it is not advisable to use drinking water to supply the dental unit, since it may lead to the formation of a biofilm in the waterlines and thus facilitate germ proliferation inside the unit itself; **It is recommended to supply the unit exclusively with dedicated liquids** (Isotonic Saline Solution or I.P.Purified Water) using the Separate Supply system.
after use on each patient:
The handpiece, tips and wrench must be sterilised in a steam autoclave at 135°C, 2.1 bars, after their surfaces have been washed and disinfected (see specific instructions).
The hygienic procedures described in this manual in the section on "Cleaning, Disinfection and Sterilisation" **must be regularly implemented**.

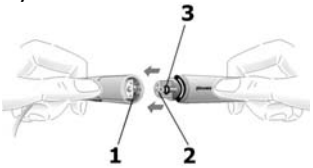
All the operations described in this section must be carried out wearing disposable protective gloves.

Pict. 1 – *Box for PIEZOSTERIL 5 sterilization*

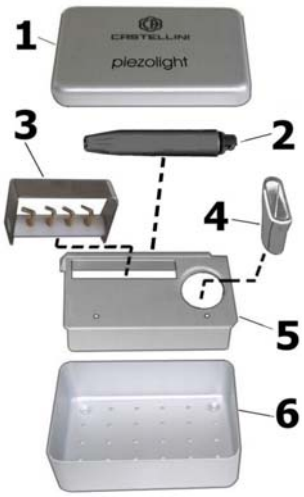
CONNECTION OF THE SCALER

The scaler must be fitted on its supply hose just by pushing it fully on the hose connector.
It's necessary to pay attention that the mating surfaces (**1** and **2** - pict. 2) be clean and dry.

Pict. 2 – *Connection to the supply hose*



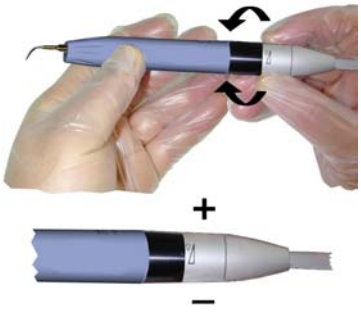
Pict. 2 – *Connection to the supply hose*



Pict. 1 – *Box for PIEZOLIGHT 5 sterilization*

ELECTRICAL SUPPLY

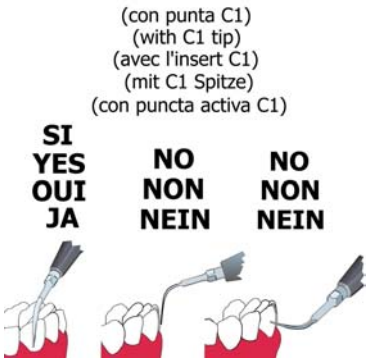
The input for the scaler must be provided by the specific power supply circuit - assembled in the unit- and the relative cable and wiring.
Adjust the controls on the unit table to control power and water flow.
Liquid delivery is adjusted via the regulator applied on the instrument coupling (Pict.3).



Pict. 3 – *Regulation of water flow*

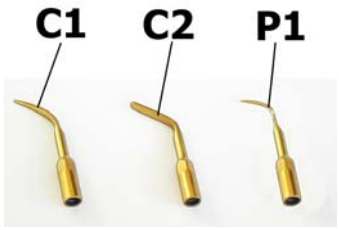
HANDPIECE OPERATION

The scaler must be operated only with its proper tips (pict. 7), provided in the box.
The tips have to be screwed on exclusively by means of the proper dynamometric spanner, also provided in the box (**4** - pict. 1).
The scaler has to be subjected to **intermittent operation** as follows: 20 min works, 10 min stand-by.
Irrigate abundantly during treatment. Do not operate in the absence of liquid.



Pict. 6 – *How to operate with the tips*

When using specific tips for dry procedures, operate at intervals lasting no longer than 3 seconds.
Optimum performance is ensured at three quarter of maximum power. After having connected the handpiece to its hose, taking care to hold the handpiece in a vertical position. Run scaler for a few seconds with the tip held upwards until a constant spray is delivered. Water spray varies according to running power and tip.
The handpiece with tip **C1 must not** be operated perpendicularly to the tooth or from the front, but rather tangentially (as shown in pict. 6). Applying slight lateral pressure, move the handpiece back and forth as if erasing with a rubber.
Tips **C2 and P1 can** also work perpendicularly to the tooth surface.

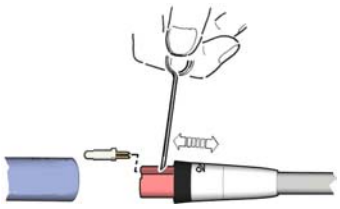


Pict. 7 - *Tips provided in the box*

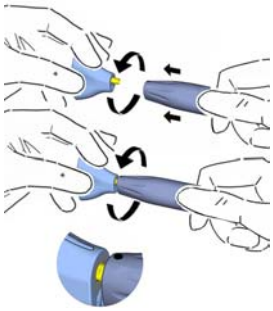
It is thus ABSOLUTELY ESSENTIAL to replace worn or damaged tips. DO NOT CHANGE the structure of the tips by bending or filing them! WARNING: Do not use the handpiece on metal or ceramic fixtures. The high-frequency oscillations may damage them.

LIGHTING DEVICE (only for Piezolight 5)

The halogen bulb housed in the hose connection must be powered at a maximum of 3.5 Vdc. It must never be touched with bare hands: should this occur accidentally, clean it with a cotton wad dipped in alcohol.
To replace the bulb (pict. 4), disconnect the handpiece from the hose and, with the aid of a pointed tool, gently pry the bulb from the hose connection. Insert a new bulb, taking care to line up its contacts with those in the socket: the bulb can be fitted properly only in this position. **N.B.: The bulb life is approximately 50 hours**


Pict. 4 – *Replacement ofthe bulb*

FITTING TIPS INTO THE PIEZOLIGHT 5


Pict. 5 – *How to fit tips into the handpiece*

After screwing in the tip, continue turning the wrench until the arrow on the wrench itself is aligned with the notch on the front end of the handpiece (pict. 5).

SERVICING

It is requested a weekly lubrication of the O-ring on the water connection (**3** - pict. 2), by means of the proper S1 silicon lubricant distributed by Castellini S.p.A. Wearing protective disposable gloves, apply a small amount of S1 on fingers and lubricate by it.Screw off a tip at least once a month to prevent autolocking.

CLEANING, DISINFECTING, STERILIZING

ATTENTION: The instrument is supplied not sterile.
Before use sterilize according to the following specifications.
Use gauze or cotton soaked in ethyl alcohol at 70% to clean and/or disinfect handpiece exterior. Do not use an ultrasonic cleaner.**Do not soak a scaler directly in solution.**
Scaler tips may be disinfected by immersion in ethyl alcohol at 70% Clean and disinfect handpiece and tips before sterilizing. Clean tips with running water before sterilizing.
The scaler must be sterilized in **autoclave** with water steam up to **135 °C 210 kPa (2.1 bar) for 20 min.** Never sterilize it in dry-heat sterilizer.
When sterilizing the handpiece, take care the tip has been removed.
Never leave a scaler in autoclave, always remove it from autoclave after each cycle.
In the same way it's possible to sterilize tips, tips-holder, dynamometric spanner and the whole box.

Warning! Check the autoclave periodically according to the manufacturer's prescriptions!
Temperature exceeding the above stated limit may damage the handpiece!

TROUBLESHOOTING

Unsatisfactory power	Be sure that the handpiece is correctly fitted on its hose
	Check the setting of the power control on the unit table
	Be sure that tip is screwed on properly
	Check that tip is not worn out
	Ask for Technical Assistance
No vibration	Do not insist with foot-control Ask for Technical Assistance
Poor water flow	Check the setting of the water control on the unit table or on the hose connection
	Be sure that water passage on the tip is not clogged. Eventually blow it with air by means of the syringe
	Ask for Technical Assistance

"LEDA" POLYMERIZING LAMP

GENERAL TECHNICAL DATA

Power supply	33 Vdc
Max electrical input	10.5 VA
Light source	1 LED 5 W
Wavelength	440-480 nm
Curing time settings	20 – 40 – 60 s
Intermittent operation	60 seconds of operation / 13 minutes rest
Acoustic signals	at the start, every 5 s and end of curing cycle
Thermal protection	against overheating
Electrical protection	Standards CEI EN 60601-1 and CEI EN 60601-1-2
Classification	IIa (93/42 EEC Directive)

Pict. 1 – *Connecting the handpiece and fibre optic guide*

CONNECTING THE HANDPIECE AND FIBRE OPTIC LIGHT GUIDE (Pict. 1)

The LEDA curing lamp must be fitted to the power cord simply by pushing it into place (see Pict. 1). The connecting surfaces must be clean and dry.

The fibre optic guide, rotatable by 360°, must always be inserted all the way in to avoid losses in efficiency.

PRELIMINARY STEPS

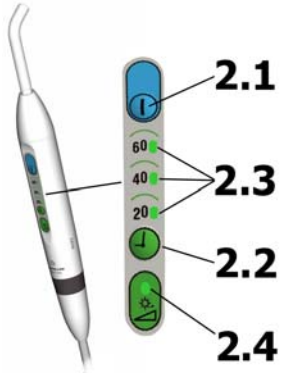
Before using the lamp for the first time, carry out the following steps:
- clean and disinfect the handpiece;
- sterilise the fibre optic guide, which is supplied in a non-sterile condition (see Cleaning, Disinfection and Sterilisation instructions below).

USING SAFELY: rules and recommendations

For safe use of the device, it is important to observe the current standards of hygiene and good professional practice.
We also draw attention to the following rules:
- do not use the device in the presence of flammable substances;
- the device must not be used on patients or by users who have been fitted with pacemakers or other implantable devices;
- do not use the device on patients who are undergoing treatment with photosensitising drugs;
- never aim the light beam toward the eyes; special care should be taken and suitable protective eyewear should be provided for patients who are particularly sensitive or have undergone cataract surgery or have a clinical history of retinal disease;
- protect eyes adequately by wearing glasses, full face shield;
  During use wear a suitable protective shield (available from Castellini, order code L0001225) or filter glasses providing protection against blue light up to a wavelength of 520 nm, available from distributors of dental supplies.
- do not aim the light beam at soft tissues (gums, mucous membrane or skin) since overexposure may cause irritation. The fibre optic guide should be positioned directly over the material to be cured;
- while carrying out cleaning and disinfection operations take care that no cleaning agent gets inside the device.

After use on each patient:

it is mandatory to sterilise the fibre optic guide in a steam autoclave at 135°C and 2.1 bars, after the surface has been cleaned and disinfected.**The hygienic maintenance procedures** described herein in the section on "Cleaning, Disinfection and Sterilisation" **must be routinely applied. Do not use the device if it is damaged. Contact an authorised Service Centre. Suspend operation immediately if the device becomes abnormally hot.**



Pict. 2 - *Overall view*

USING THE HANDPIECE

The wavelength of the light emitted by the device falls within the range of 440 - 480 nm, suitable for the majority of composites. When in doubt, refer to the composite specifications or contact the manufacturer.
The device is designed to **work intermittently**: 60 seconds of operation, 13 minutes of rest. After connecting the handpiece to the power cord and inserting the fibre optic guide, select the desired curing time by pressing and instantly releasing the button (**2.2 -** Pict. 2) in sequence: the selected setting will be indicated by the lighting up of the corresponding LED (**2.3** - Pict. 2). Pressing the button (**2.2**) longer will not change the time setting but will rather activate the light intensity ramp-up mode, as signalled by the lighting up of the corresponding LED (**2.4**). To deactivate the ramp-up mode, press the button (**2.2**) and keep it pressed until LED (**2.4**) goes off.

To turn on the lamp, press the button (**2.1** - Pict. 2). As long as the button is pressed the device will emit light for targeting only; releasing the button will activate the curing light.
The light goes off automatically when the set time has elapsed and emits an audible signal (3 beeps in rapid sequence).
The lamp can be turned off before the set time has elapsed by pressing the button again (**2.1** - Pict. 2).
During operation a beep will be emitted every 5 s.
A safety device shuts off the lamp if the temperatures exceed the limits established by applicable safety standards. It will be necessary to wait for the lamp to cool down before resuming operation.
When the instrument is disabled due to overtemperature the lighted LEDs will flash.

DO NOT USE when the fibre optic guide is damaged!

The only on-site servicing possible is replacement of the fibre optic guide.

MAINTENANCE

Keep the fibre optic guide clean. Carry out cleaning, disinfection and sterilisation on a routine basis as described below.

CLEANING, DISINFECTION AND STERILIZATION

WARNING: The instrument is supplied in a non-sterile condition.
Before use, sterilise it according to the directions provided below.

It shall be pointed out that the decree issued by the Italian Health Ministry on 28 September 1990 and published in the Official Gazette, n° 235 of 8/10/90, explicitly provides that reusable dental instruments coming into contact with the mucous membrane must be sterilised or disinfected, where sterilisation is not possible, after use on each patient. The optical guide and handpiece casing can be cleaned with Ster 1 Plus and disinfected using a cotton wad dipped in 70% ethyl alcohol.

All operations described in this section must be performed wearing disposable protective gloves.

Cleaning may be carried out only when the handpiece is cold and care must be taken to prevent liquids from getting inside the handpiece.

The optical guide and handpiece casing can be cleaned with Ster 1 Plus and disinfected using a cotton wad dipped in surgical alcohol.

Cleaning may be carried out only when the handpiece is cold and care must be taken to prevent liquids from getting inside the handpiece.

To prevent lamp efficiency from being impaired, keep the fibre optic guide clean and avoid direct contact with restoration materials. Remove any scale without using sharp or pointed tools which may damage the surface.

Only the fibre optic guide can be sterilised and **exclusively in an autoclave** at a temperature of up to 135°C and pressure of 210 kPa (2.1 bars) for 20 min. Always clean the fibre optic guide before sterilising it.

Do not autoclave the whole handpiece!
Warning! Periodically check the autoclave according to the manufacturer's directions!
Temperatures beyond the stated limit may damage the optic fibre!

TROUBLESHOOTING

Limited curing capacity	Check that the fibre optic guide is clean and intact Request assistance from Service Personnel
The lamp goes off before the cycle has ended (*)	The thermal protector has tripped. Allow the lamp to cool down.

(*) it's lighting intermittently the pre-selected setting time led

"POLYLIGHT STERIL 3" POLYMERIZING LAMP

Polylight Steril 3 is a 52 W halogen lamp generating light within the 400 to 515 nm range, suitable for curing light-activated composite materials. It is intended to be used by dentists only, who may avail themselves of the assistance of authorized personnel.

GENERAL TECHNICAL DATA

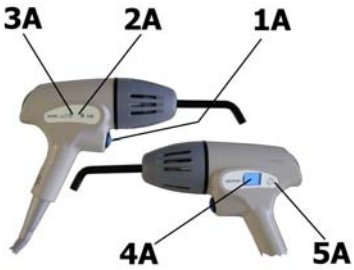
Power supply	10 Vdc
Bulb wattage	52 W
Wavelength (range)	400 - 515 nm
Intermittent operation	60 s work - 60 s rest
Classification:	IIa (93/42 EEC Directive)

USING SAFELY: rules and recommendations

To use the equipment safely, it is essential to abide by the rules of hygiene and good professional practice.
Do not use this device in presence of flammable substances.

USERS MUST ADEQUATELY PROTECT THEIR EYES by wearing glasses, full face shields.

Lamp operation



Pict. 1 - *Polylight Steril 3*

- Insert the light guide just pushing it all the way in.
- Select the desired time, between 5 and 60 seconds, by means of control 5A (pict.. 1). The set time will be shown on the display (**4A** - Pict. 1) (the set time will appear on display and when press it again increase by 5 s to 5 s, when display arrives at 60 s, with another pressure, it start again from 5 s).
- To operate the lamp at half power, press control (**2A**); the corresponding green LED will light up. Pressing the same control again will switch back to full power operation.
- To increase the light intensity gradually, press control (**3A** - Pict. 1); the corresponding green LED will light up. Pressing the same control again will disable this function.

After setting the time and any of the other functions described, press button (**1A**) to turn on the lamp. As long as you press the button, you will have light for aiming; when you release the button the curing light will be emitted.
The lamp turns off automatically at the end of the set time and emits a sound signal (3 beeps in rapid succession).
You can turn off the lamp before the set time elapses by again pressing button (**1A**).
During operation a beep is emitted every 5 seconds.
Inside the handpiece there is a cooling device and temperature sensor, which stops the lamp if it exceeds the temperature values established by applicable standards. The lamp must be allowed to cool down before work may resume.

REPLACING THE HALOGEN BULB

Pict. 2 - *Replacing the halogen bulb*

To access and replace the halogen bulb, carry out the following steps in sequence:

1. disconnect the dental unit from the power supply (lever of the main switch set on **O**).
2. hold the instrument upright as shown in pict.ure 2; remove the light guide (**6A**), unscrew (**7A**) and then the filter holder (**8A**).
3. take hold of the upper edge of the dichroic reflector, which is attached to the halogen bulb, and pull it upward to remove it.
4. fit a new bulb by inserting the two pins in the sockets provided in the bulb holder; press with your fingers on the outer rim of the reflector to fit it all the way back onto the bulb holder, without touching the bulb with your hands.

Use only replacement bulbs supplied by Castellini; Code E24M0000
Light guide code 681C1200

Apart from replacing the bulb and the light guide, the device is not field-repairable.

WARNING:

- During operation, the halogen lamp reaches very high temperatures. Therefore, allow it to cool down before attempting to access the inside of the handpiece.
- Do not touch the halogen bulb or the mirror with your fingers. Should accidental contact occur, carefully clean the bulb or mirror with cotton dipped in alcohol.
- Always keep the terminal surface of the optic fibre thoroughly clean to ensure effective curing.
- **Do not direct the light emitted from the lamp toward the patient and the dental practitioner's eyes.** During use wear protective glasses and/or a shield, which may be purchased from distributors of dental supplies.
- Avoid impacts that could cause the handpiece to fall accidentally, resulting in the probable breakage of components for which the manufacturer cannot be held liable.
- Should you observe any visible damage to the fibre optic guide or detect any unusual noises and/or vibrations, or unusual heating do not use the instrument. Contact an authorised service centre.

CLEANING, DISINFECTION AND STERILISATION

ATTENTION: The instrument is supplied not sterile.
Before use sterilize according to the following specifications.

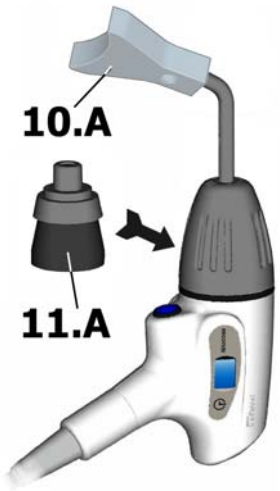
The light guide and handpiece casing can be cleaned with Ster 1 Plus and disinfected with cotton moistened with surgical grade alcohol.

Cleaning is permitted only when the handpiece is cold.

Avoid allowing liquids to penetrate inside the handpiece.

The light guide and upper part of the handpiece (**7A** - Pict. 2) can be autoclaved for 20 min at a temperature of up to 135 °C, 210 kPa (2.1 bars).

Warning! Periodically check the efficiency of the autoclave according to the manufacturer's directions!
Temperatures beyond the specified limit may damage the materials!



Pict. 3 – *Whitening device*

DENTAL ARCH WHITENING DEVICE *(subject to request)*

The "Polylight 3 Steril" curing light may also be fitted with a device for whitening dental arches constituted by a transparent halogen light diffuser (**10.A** – Pict. 3) that must be applied by pressing on to the optics guide having unscrewed the front part of the lamp and replacing the standard issue filter holder (**8.A** – pict. 2) with the new one (**11.A** – pict. 3) provided especially for this optional application.

N.B.: Before replacing the filter-holder, as described above, ensure that the lamp is cool.

"MINITOM 2" ELECTROSURGERY HANDPIECE

Single-pole electrosurgical instrument for dentistry with active handpiece insulated from earth (type BF) and with handpiece for patients indirectly referred to earth for high frequencies (hereafter referred to as "neutral electrode").

GENERAL TECHNICAL DATA

Power supply (at the power feed)	32 Vdc
Output power	45 W ± 10%
Load impedance	800 OHM
Working frequency	500 KHz ± 10%
Max peak tension	480 V
Intermittent operation	15 s work cycle – 30 s rest cycle
Max peak no-load voltage:	965 Vpp
Peak voltage with load of 800 ohms	530 Vpp
Classification (93/42 EEC Directive)	IIb

USING SAFELY: rules and recommendations

To ensure that the equipment is used safely, the user must abide by the set standards of hygiene and professional diligence.

PERSONNEL MUST DULY PROTECT THEIR EYES, BREATHING PASSAGES, MOUTH AND SKIN by wearing safety glasses, face shields, masks and disposable gloves. Operate the suction system at high speed in all operations likely to result in a discharge of materials, dust and aerosols to minimise their dissemination.

POWER SUPPLY

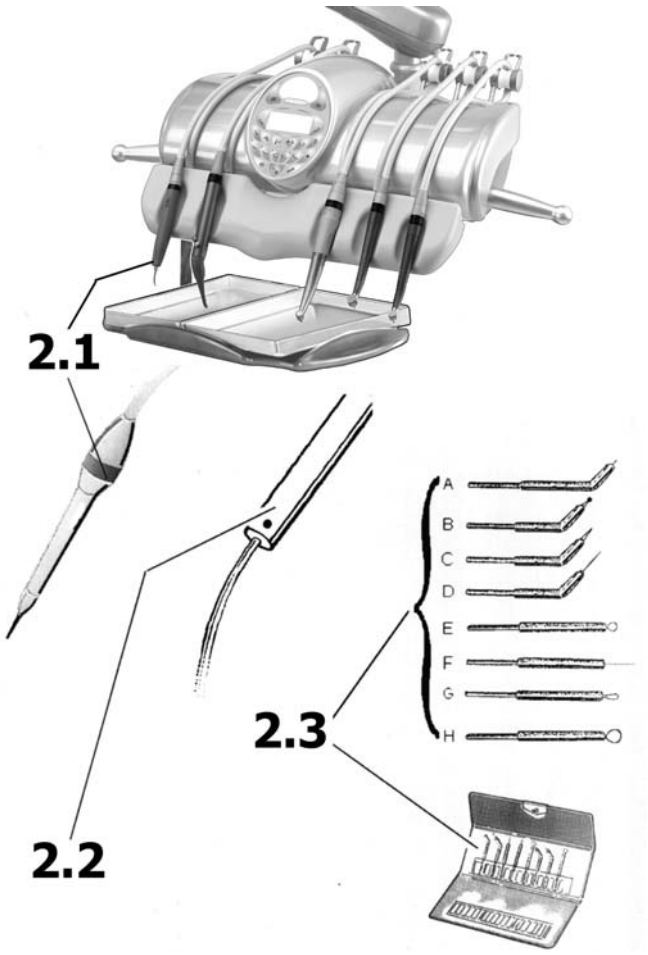
The power supply must be transmitted to the electrosurgery handpiece through the special Castellini power feed fitted on the dental unit and handpiece cable connection.

In the **"MINITOM 2"** model, the handpiece can be disconnected from the electric cable by unplugging the connector provided. **Prior to use, WE PRESCRIBE TO read the following sections on PRECAUTIONARY MEASURES, IMPORTANT WARNINGS and INSTRUCTIONS FOR USE carefully.**

PRECAUTIONARY MEASURES FOR USING THE ELECTROSURGERY HANDPIECE

In order to reduce the risk of severe burns, we recommend that you follow the PRECAUTIONARY MEASURES indicated below:

1) Ask the patient to hold the entire surface of the neutral electrode tightly and check that the plug is correctly inserted into the corresponding cable socket.
2) Ensure that the patient does not come into contact with the metal structure of the dental unit. In order to avoid such an occurrence, we recommend the use of anti-static capes.
3) Ensure that no skin-to-skin contact takes place (e.g. between the patient's arms and body). If necessary, place a piece of fabric between arms and body.
4) Where the electrosurgery handpiece is to be used simultaneously with monitoring equipment or other high frequency-sensitive equipment on a patient, ensure that all the electrodes of the latter, unless fitted with resistances or filter coils, are positioned as far as possible from the electrodes of the electrosurgery handpiece.
5) Ensure that cable connections to the neutral electrode and the active electrode do not come into contact with the patient or with any other conductors.
6) Always use the neutral electrode, so as to avoid unwanted coagulation in the course of surgical operations on small sectionbody parts.
7) Always select the lowest possible power output setting.
8) Do remember that a low level power output or any malfunction of the electrosurgery handpiece may give indication of an incorrect application of the neutral electrode or an error in its connections.
9) Do not use flammable anaesthetics, nitrous oxide or oxygen during surgery.
Any flammable substances used for cleaning or disinfecting purposes must be allowed to evaporate before starting to operate with the electrosurgery handpiece. Do bear in mind that materials such as oxygen impregnated cotton wool or gauze may be set on fire by the sparks produced by the equipment under normal operating conditions.
10) Do not use the electrobistoury on patients with PACEMAKERS since the radio frequency output by the electrobistoury can generate interference that is hazardous for the patient and may damage the stimulator. When in doubt it is advisable to consult a CARDIOLOGY specialist.
11) Remember that during operation the electrobistoury may generate interference with other electromedical equipment
12) Remember that a fault in the device may lead to an increase in the output power. Should you detect or even only suspect the existence of a fault, do not use the device. Contact an authorised Service Centre.
13) Remember that even though the device is a single-pole electrobistoury for dental use and has been designed also to work without the neutral electrode, it is advisable always to have the patient hold the neutral electrode provided in order to obtain consistently good results during use.



Pict. 2 – *Electrodes and earth plate*

IMPORTANT WARNING

A) Please note that, when in operation, the electrosurgery handpiece may generate interference that can disturb the normal functioning of other electronic equipment.
- Do not use any other electronic equipment on the patient at the same time as the electrosurgery handpiece.

B) The equipment is fitted with the following accessories manufactured by Castellini:
- an active handpiece (**2.1**, - pict. 2), connected to a special cable suitable for the high frequency produced when in operation;
- a set of special operating electrodes (**2.3**) suitably shaped, to be inserted in the active handpiece gripper;
- a neutral electrode (**2.2**) connected to a special cable complete with a plug to be fitted into the corresponding socket on the tool tray. In order to avoid problems of incompatibility due to the high frequency generating circuit which may interfere with the equipment's normal and safe operation, **WE PRESCRIBE TO use only accessories designed and supplied by the MANUFACTURER.**

C) To ensure proper and safe functioning, we also recommend that each time you are about to use the elecrosurgery handpiece you inspect all accessories indicated at point B to ensure that they are perfectly efficient, and check, in particular, that the cable insulation is not damaged, worn or cracked.
Should cables or other accessories show signs of deterioration, do not use the instrument and contact an authorised technical service centre; order spare parts exclusively from the manufacturer.

D) In order to obtain the best operating results and to ensure the successful outcome of all operations, we recommend you always use the neutral electrode, although the equipment can operate without it.

E) It is advisable to activate the device only when the electrode is in contact with the tissues you need to operate on.
Some practical tips for using the electrobistoury are provided below.
Annexed to this manual you will also find diagrams indicating the output powers at the full and halfway settings on load resistances ranging from 50 to 2000 ohms and diagrams indicating the output powers at various settings on a load resistance of 800 ohms.

INSTRUCTIONS FOR USE

To activate the electrosurgery handpiece, follow the sequence of operations listed below:

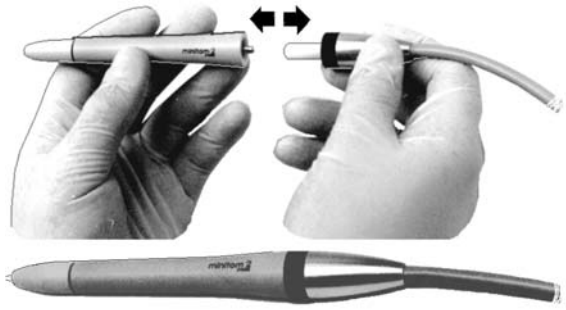
1) Insert plug of the neutral electrode's cable into the socket placed in the lower part of the tool table and ask the patient to hold the electrode.
2) Extract the active handpiece and insert it into the gripper of the electrode required to perform the operation.
3) Choose the desired function by setting the controls on the desired option among the following:

CUT ONLY **CUT AND COAGULATE** **COAGULATE**

4) Adjust output power using the controls checking the setting on the numerical display
5) Activate the equipment by pressing the foot lever **1.4** in the direction indicated with **G** in the picture.
A continuous tone indicates that the electrosurgery handpiece is in operation.
When the foot lever is released, it is immediately deactivated.

We recommend that you activate the appliance only when the electrode is in contact with the tissue on which the operation is to be performed. Below we set out some practical advice on how to use the electrosurgery handpiece.
Attached you will also find the diagrams indicating output power on maximum and medium settings with load resistances from 50 to 2000 ohm and diagrams indicating power output at various settings with an 800 ohm load resistance.

CLEANING, DISINFECTING AND STERILISING



Pict. 1 – *How to dismount the handle*

ATTENTION!: The instrument is supplied not sterile. Before use sterilize according to the above specifications.

The handle, terminal and neutral electrode of the active handpiece may be cleaned with cotton wool and surgical alcohol.
After disconnecting it (see pict. 1), the handle of the "MINITOM 2" active handpiece may be sterilised in an autoclave at 135 °C, 210 kPa (2,1 bar) for 20 min (Pict. 1).
Electrodes can be sterilised in an autoclave at 135 °C, 210 kPa (2,1 bar) for 20 min.

Warning! Check the autoclave at regular intervals in accordance with the manufacturer's instructions. Temperatures higher than the stated limit can damage the instrument.

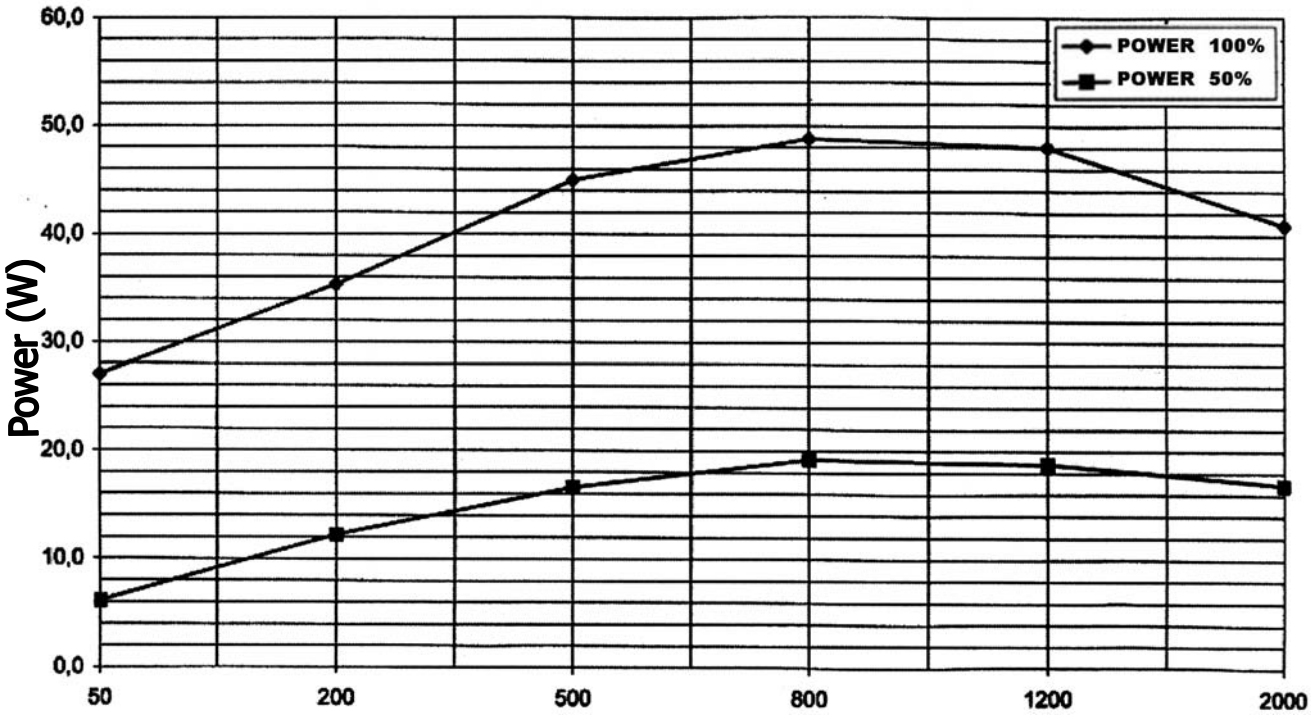
The sterilisation of the above said parts must be done before use on each patient.

PRACTICAL ADVICE

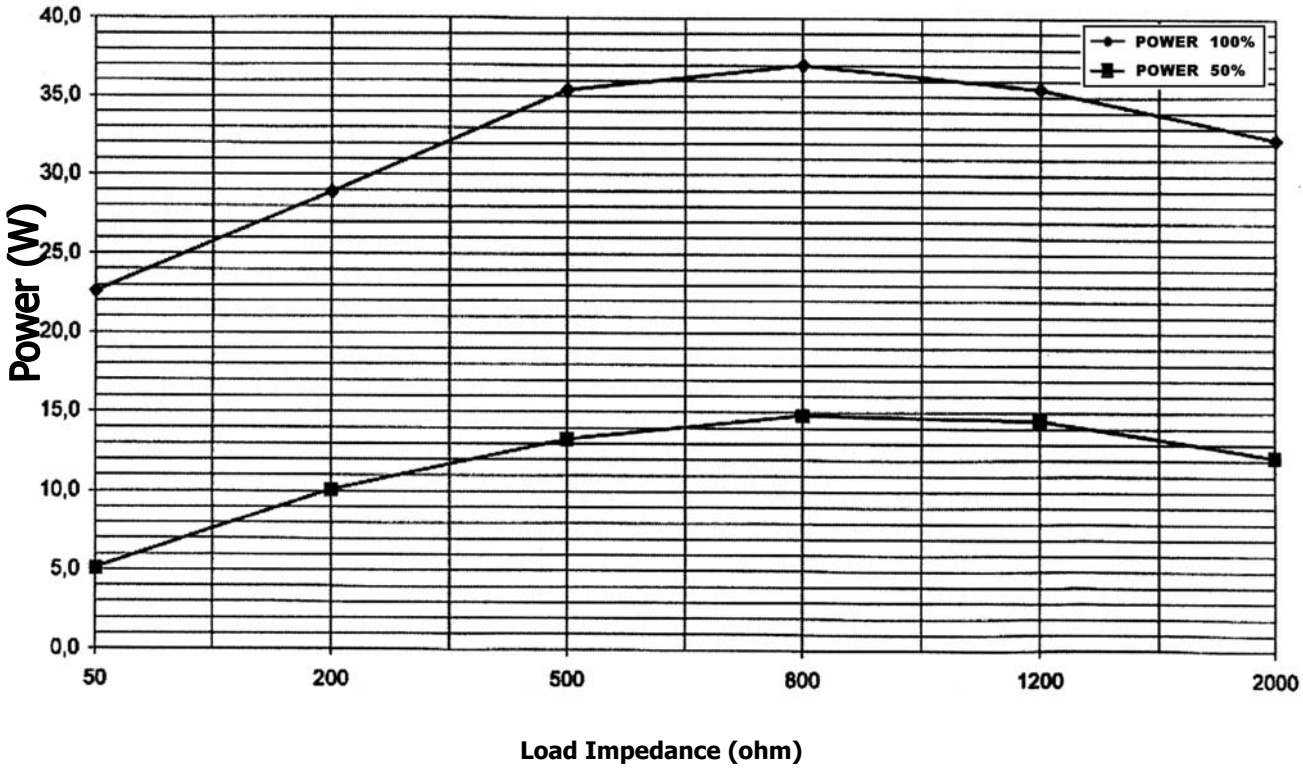
* Before using the electrosurgery handpiece on a patient for the first time, we recommend that you practice using lean raw beef, so as to assess the correct amount of power needed to operate with different types of electrodes, testing the different functions.
  Do use the neutral electrode even when performing these tests.
* Always keep the electrode as perpendicular as possible in relation to the tissue surface, to allow the cell volatilisation process to be as full and effective as possible.
* In order to always obtain satisfactory results while operating on patients, always ask them to hold the neutral electrode and always keep the electrodes clean and polished.
  An insulating layer of burnt tissue forms on the surface of dirty electrodes which causes sparking and carbonises the surfaces it comes into contact with.
* Activate high frequency tension only when the electrode is in contact with the tissue.
  If you activate it too soon, an electric arc may form as the electrode approaches the tissue, carbonising the surface and thus forming an insulating scab.
* Always adjust power output on the lowest setting compatible with the operation to be carried out, in relation to electrode size, tissue condition, depth of the incision and speed of operation.
* Extract excess saliva only with plastic saliva ejector tubes, trying to leave only the tissue area slightly moist.
* When cutting only, use small section electrodes (thin needles) and move the electrode on the tissue as quickly as possible.
* For cutting and coagulating, use larger section electrodes (larger needles) and move the electrode slightly more slowly.

  * For coagulating only, use the special spherical or truncated cone electrodes. If you cannot avoid using small section electrodes, adjust power and, where necessary, operating time on the minimum setting.

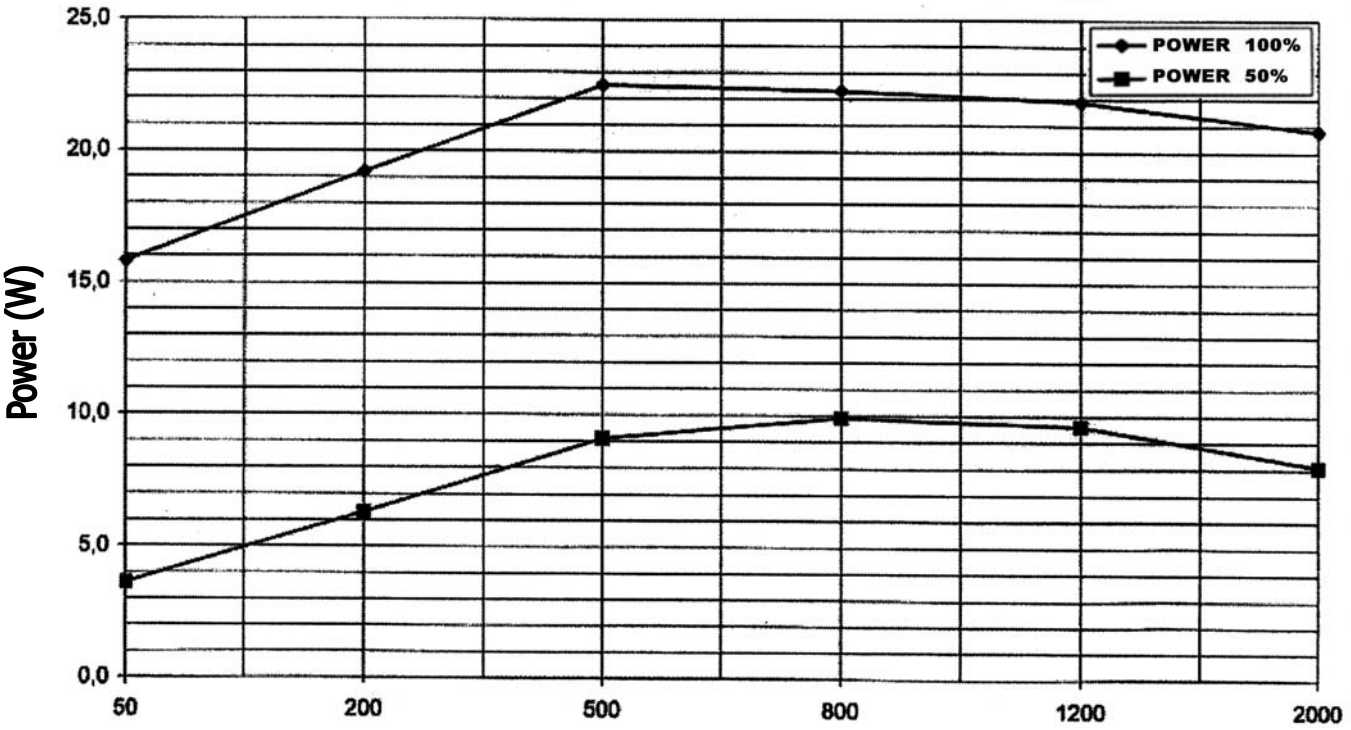
Electrosurgery "Minitom 2" Power Diagrams - Cut Position



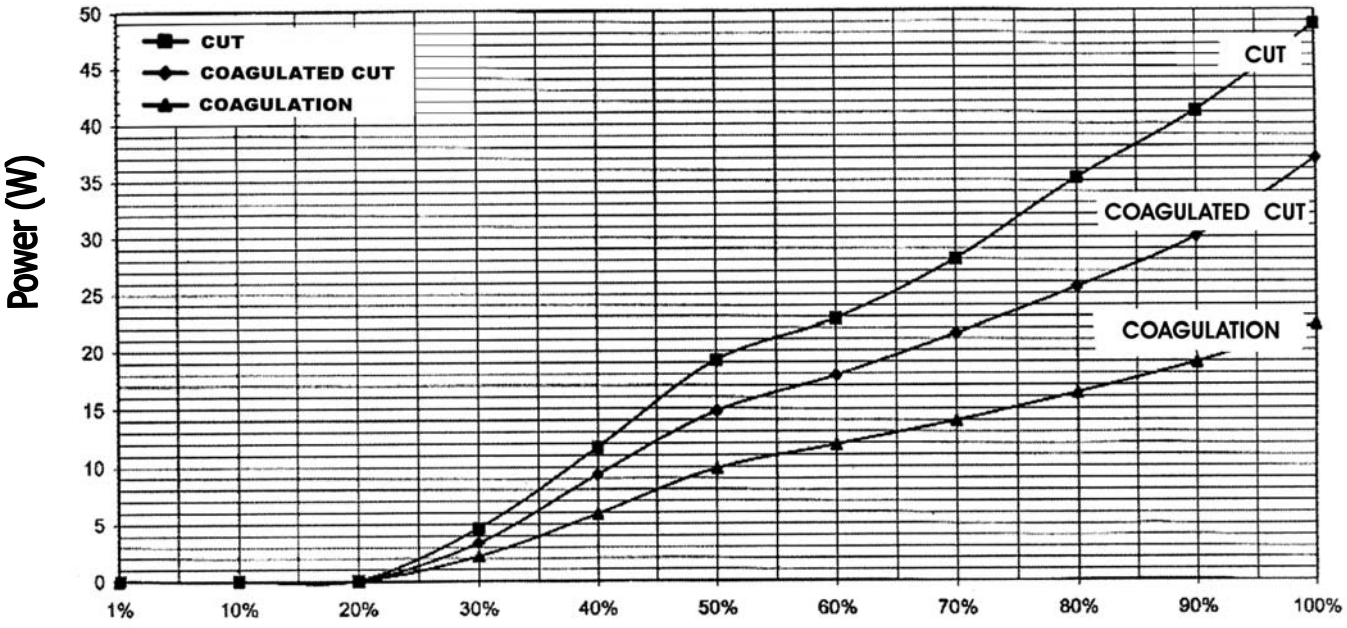
Electrosurgery "Minitom 2" Power Diagrams - Blend Position



Electrosurgery "Minitom 2" Power Diagrams - Coag. Position

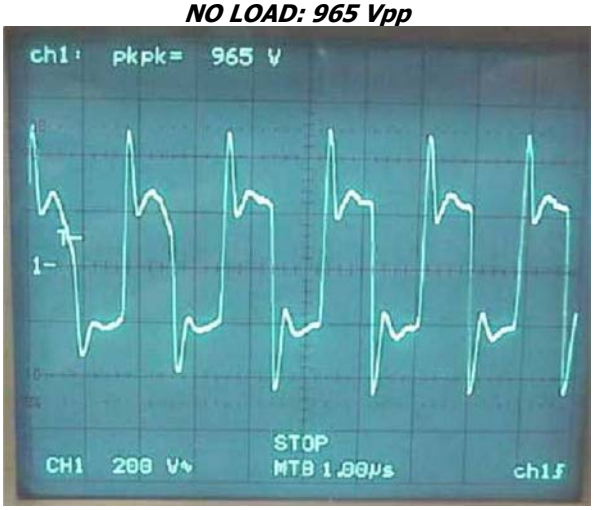


Electrosurgery "Minitom 2" Control Linearity Diagrams (Load Impedance = 800 Ω)

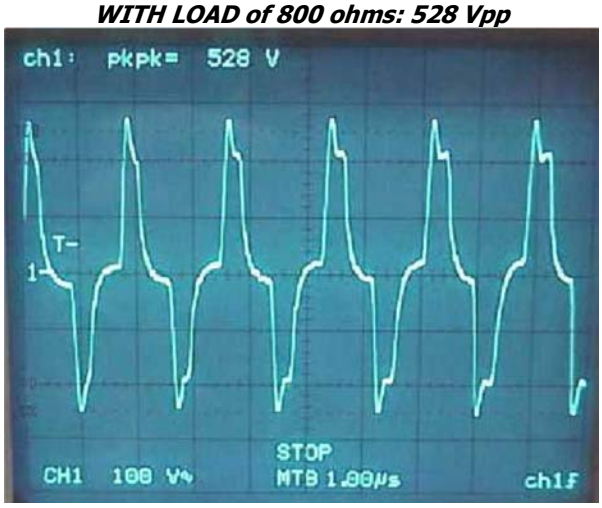


DIAGRAMS INDICATING THE MAXIMUM PEAK VOLTAGES THAT MAY BE OUTPUT ACCORDING TO THE AVAILABLE FUNCTIONS *(CUT – COAGULATING CUT – COAGULATION)*

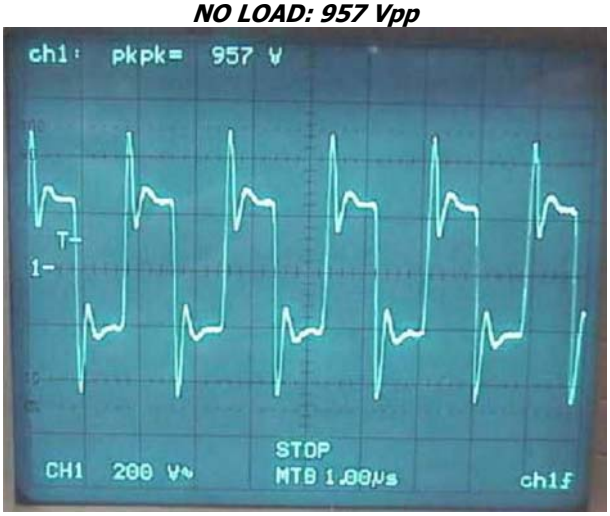
FUNCTION: PURE CUT (CUT)
NO LOAD: 965 Vpp



FUNCTION: PURE CUT (CUT)
WITH LOAD of 800 ohms: 528 Vpp

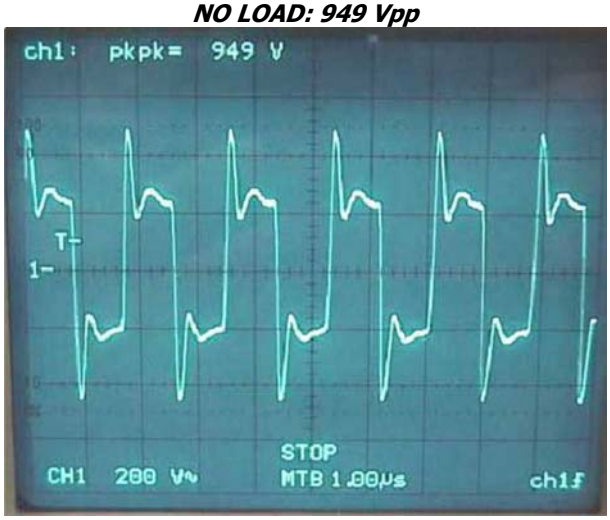


FUNCTION: COAGULATING CUT (BLEND)
NO LOAD: 957 Vpp

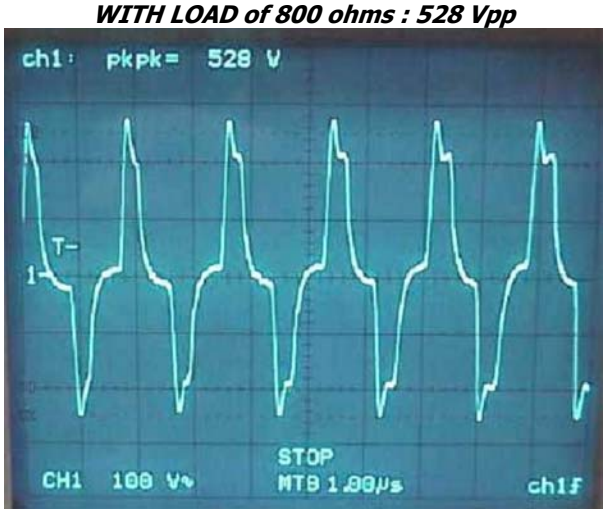


FUNCTION: COAGULATING CUT (BLEND)
WITH LOAD of 800 ohms: 528 Vpp

FUNCTION: COAGULATION (COAG)
NO LOAD: 949 Vpp



FUNCTION: COAGULATION (COAG)
WITH LOAD of 800 ohms : 528 Vpp



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DUO

PART IV – INSTRUCTIONS FOR THE INSTALLATION

ESSENTIAL REQUIREMENTS

PREMISE

THIS EQUIPMENT MUST BE INSTALLED only by specially trained and qualified technicians, carrying a valid "Authorised Castellini Technician" identification card.

The use of persons not meeting the above requirements, or in possession of an expired Castellini identification card, will automatically and immediately invalidate the equipment guarantee and all certifications, exonerating Castellini from any form of responsibility and transferring it de iure et de facto onto the person responsible for the operation, together with any criminal or civil proceedings undertaken by Castellini and claims for any damages suffered by third parties, including any further and/or greater damages.

The specially trained and qualified technician, carrying a valid Castellini identification card must not make alterations without prior authorisation, arbitrarily tamper or incorrectly carry out maintenance operations (i.e., not in compliance with the instructions issued by Castellini itself) and must not use non-original spare parts and/or components, nor connect Castellini products to any medical devices not approved by Castellini or not in compliance with the compatibility parameters specified by Castellini itself.

The specially trained and qualified technician, carrying a valid Castellini identification card is not authorised to alter or in any way interfere with the electric mains supply system as the law requires such operations to be carried out by specially authorised technical personnel (see applicable law)
Furthermore, no alterations or technical operations of any kind or nature may be performed on the water mains supply and water treatment systems or, generally, to the area in which the equipment is to be installed, as any works of this nature are the personal responsibility of the person legally responsible for the dental surgery (see "Important Warnings", page 4, Operator's Instructions).

Any violation of the above renders the identification card null and void and requires its immediate surrender to Castellini. Castellini reserve the right to undertake civil or criminal proceedings and to apply for compensation of any damages incurred, including any further and/or greater damages, notwithstanding any applicable legal sanctions.

The technician, as defined above, must be aware of the contents of the entire manual, including the section entitled "Operator Instructions" and must follow them scrupulously.

During installation, the technician must follow all the instructions and recommendations contained in this manual as well as the **"Installation Check-list"** attached to the equipment. The **"Installation Check-list"** must be signed by both the technician and the client.

The technician must also scrupulously fill in the documents and perform the duties for which he is competent, as described in the **"Installation Certificate"** attached to the equipment, signing the sections that concern him and asking the client and the sales personnel to sign those that concern them.

*A copy of the **"Installation Certificate"** and of the **"Installation Check-list"** must be forwarded to Castellini S.p.A. on the day the equipment is installed.

The technician must hand to the client a **"Malfunction/accident report"** form, inviting him to keep it safe and explaining that such form is to be used by technicians only to report any specific malfunction and/or accident to Castellini S.p.A.

The owner of the equipment is responsible for booking the services of the Castellini technician at all times.
The technician who performs the scheduled maintenance operations is responsible for correctly and accurately filling in the attached forms (see "Scheduled maintenance operations"), and must sign them, taking the responsibility for their accuracy upon himself.

The technician must explain to the user and any assistants how to use and maintain the device according to the directions provided herein.

The technician must thoroughly explain to the user and any assistants how to properly perform the maintenance operations described in the "*Protocol for Hygiene and Maintenance of Dental Unit".* (Also see, Protocol for Hygiene and Maintenance of the Castellini Dental Unit).

The technician must inform the user that all routine maintenance and sanitation of the dental unit must be performed exclusively with the products (lubricants included) specified by Castellini (see, "*Routine Maintenance Program"* and "*Products to be used with the Castellini Dental Unit"*). It is forbidden to use any product other than those explicitly named in this manual and in the "*Protocol for Hygiene and Maintenance of Dental Unit".*

* The equipment is fitted with an I.M.Q. certified, 10 A - 380 V FAO BRETER power switch (to simultaneously separate the positive and negative poles).

The equipment **MUST** be fitted at source with a wall-mounted automatic differential switch manufactured in compliance with European standards, with a minimum of 16 A - 250 V and I∆N differential power supply not above 0.03 A
Where the above mentioned switch is not already available, it must be fitted by personnel licensed to operate on the electricity mains supply system, in the manner and under the terms envisaged in the relevant laws.

The Manufacturer warns that any failure to comply with the above prescription will be considered improper use in contradiction with the manufacturer's directions and as a result will compromise the essential safety requisites prescribed by Directive 93/42 EEC, thereby invalidating the EC mark placed on the device.

Technicians are obliged to compile the **"Non-conformity Report"** form and send it to Castellini S.p.A.'s main office whenever they observe:
- that other medical devices and/or accessories not authorised by Castellini, or in any case outside the specifications of compatibility indicated by Castellini S.p.A., have been connected to Castellini products;
- evidence of unauthorised modifications, arbitrary tampering or maintenance work not complying with the directions provided by Castellini;
- evidence of previous use of non-original spare parts and/or components.

* The dental unit **MUST** be provided with an earth connection in compliance with BS standard.

* The dental unit is designed to be permanently connected to the power mains, by means of a suitable input terminal board.

* The safety fuse is inserted on the live pole (conductor with brown insulation sheath marked with wiremarker **L**).
Access to the fuse (part. **4.3** – pict. 4) is only possible by means of a special screwdriver.

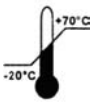
* In order to correctly connect the dental unit to the mains, the dentist's chair to the dental unit and, where applicable, the air extractor to the dental unit, follow instructions at the pictures 1.1, 1.2, 1.3, 1.4A, 1.4B, 1.5.

If the installation of an air compressor is required, separate power supply and protection device are necessary.

* Before proceeding with the installation the pipework should be thoroughly cleaned to avoid the penetration of any sediments in the water and compressed air circuit of the dental unit and the water pipes should be bled to eliminate any air bubbles.

* In order for the dental unit to work efficiently, it is essential that the room in which it is to be installed is adequately prepared, that care is taken in transporting special fittings, that all components are correctly installed and that the maintenance operations schedule recommended by the manufacturer is followed.

PERMITTED ENVIRONMENTAL CONDITIONS FOR TRANSPORT AND STORAGE



- Ambient temperature between - 20 ° and + 70 °C;

RH - Relative humidity between 10 and 100 %;

P - Atmospheric pressure between 500 and 1060 hPa (500 ÷ 1060 mbar).

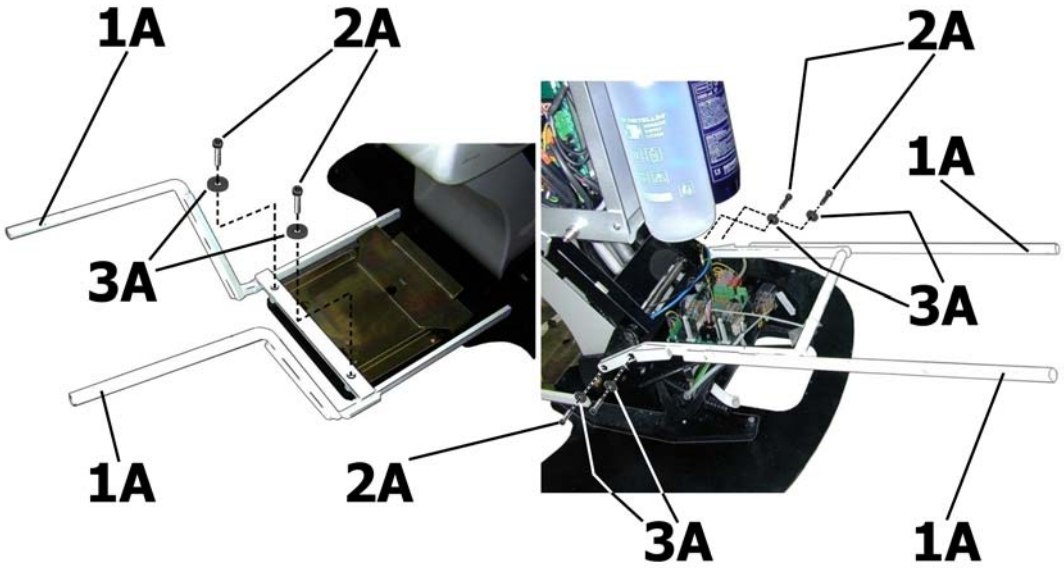
- The appliance **MUST NOT** be removed from its packaging during transport and storage.

- After installation the first test operation must not be performed until the appliance has reached ambient operating temperature (10 ÷ 40 °C).

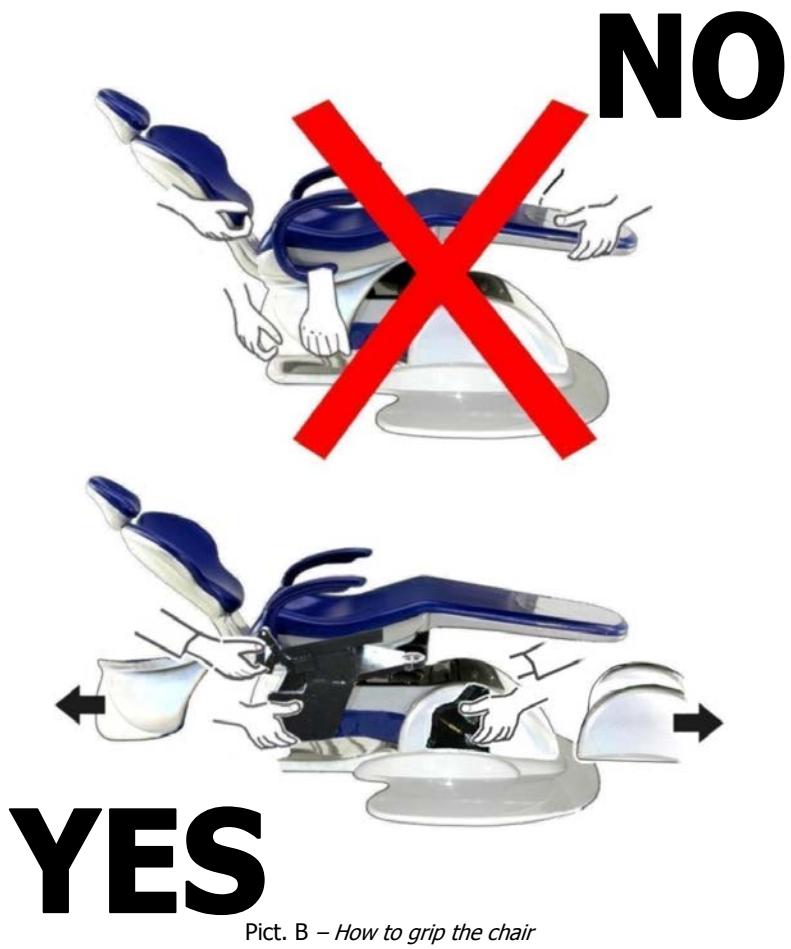
INSTALLING THE CHAIR AND THE UNIT

TRANSPORTATION OF THE CHAIR (Pict. A)

To convey the chair to the installation site more easily, it is recommended to use the carrying handles (**1a**), to be fitted onto the steel frame of the chair base using the safety screws (**2a**) and washers (**3a**) provided.



Pict. A – *Chair transport with levers*



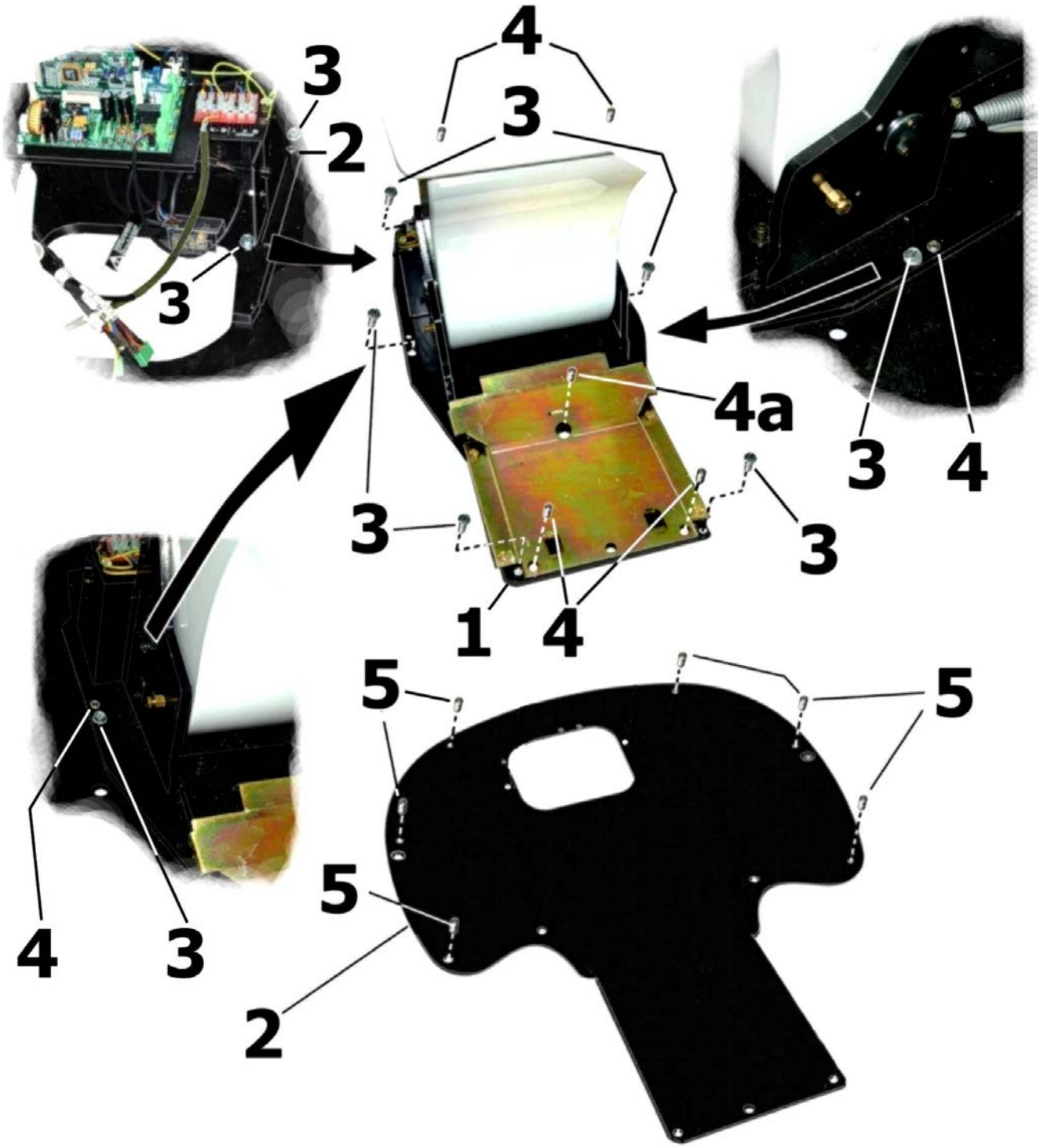
Pict. B – *How to grip the chair*

INSTALLING THE CHAIR (Pict. B)

Tilt the mobile part of the seat and remove the covering casing at the base of the chair.
Position the chair according to the power supplies arranged on the floor of the surgery and fasten it using the screws with screw anchors provided (2 screws for right-hand unit or 3 screws for ambidextrous version).
In order to prevent probable damage during movements, avoid grasping the chair by the rear covering casing or by the front edge of the seat (legrest) (as indicated in pict. B above).
Grip the chair holding the top or bottom part of the articulated lifting arm only (as shown in pict. B below), or use specially designed lifting equipment (see pict. A).
We recommend reassembling the upholstery on the chair seat only once all unit installation operations are complete.
It is advisable to complete all the chair's installation steps before fitting the upholstery to the chair's seat.

LEVELLING THE CHAIR BASE (ambidextrous dental units only) **(Pict. C)**

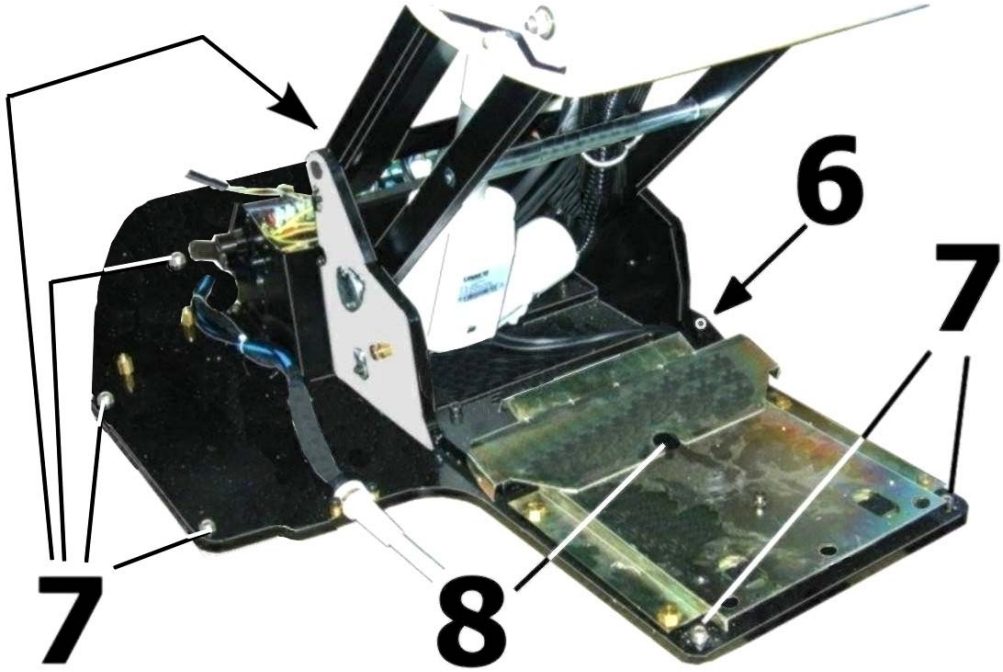
The specific base (**2**) for the ambidextrous unit is sent separately from the chair.
Having fixed it to the floor, use the six adjustment dowels (**5** – pict. C) to give the platform a stable position even on slightly uneven floors.
Place the chair over it and fasten the base (**1**) using the six screws (**3**).
Assemble the unit body on the chair, then proceed as follows:
Check that the unit is level by placing a spirit level on the fixed horizontal arm of the dentist's tray, turning it first to the rest position and then to the work position.
- Tighten or loosen the adjustment dowels (**4**) to obtain a good level and the utmost stability of the chair on the floor (the instrument tray must remain stable in the position in which it is left).
- Lastly screw down the dowel (**4a**) to eliminate any gap between the two bases (**1** and **2**).



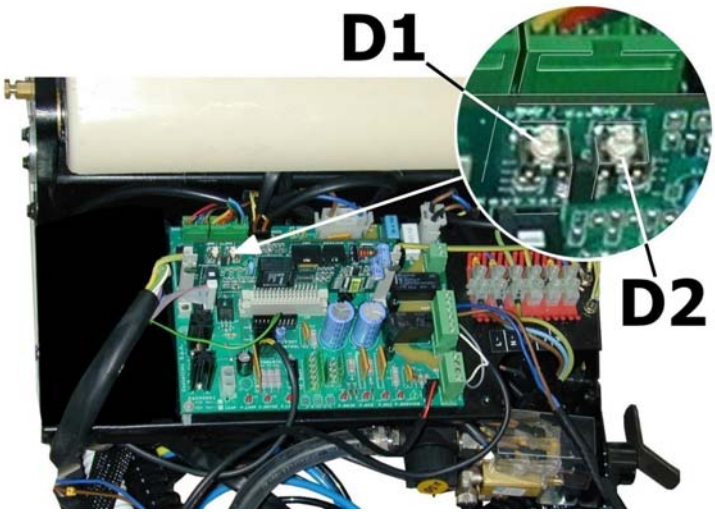
Pict. C – *Levelling the chair base for ambidextrous unit*

LEVELLING THE CHAIR BASE (right-hand dental units only) **(Pict. C bis)**

Having fixed the base to the floor (if possible) in the envisaged points indicated in picture C bis by the arrows (**6**), use the dowels (**7**) and, lastly, the dowel (**8**) to bring the underlying stainless steel plates into contact with the floor, thus guaranteeing utmost chair stability.



Pict. C bis – *Levelling the chair base for right-hand unit*



Pict. D – *Controls for chair up and down*

RAISING THE CHAIR **(Pict. D)**
To make the up/down movements of the chair seat (necessary during dental unit installation) more convenient to perform, two pushbuttons **D1** (up) and **D2** (down) are provided on the movement control card in the area indicated in pict**. D.**

Warning: pushbuttons **D1** and **D2** work with an extremely low safety voltage, but the main power terminals and main switch are powered with mains voltage.

INSTALLING THE RIGHT-HAND UNIT (Pict. C1)

Make sure that all pre-installation work has been performed according to the instructions shown on the 1:1 scale installation plan diagram and in this manual, then carry out the following operations in the stated order:

1) Using dolly (**a**), place crate containing the unit near the chair.

2) Remove the cover to open and take out all the accessories attached to the unit.

Caution: The safety binding that prevents the tray arm from rotating **MAY BE REMOVED ONLY AFTER** the dental unit has been completely fastened to the chair.

ATTENTION: the safety strap that prevents the arm of the dentist tray from turning **MAY ONLY BE REMOVED** once the unit has been fixed to the chair.

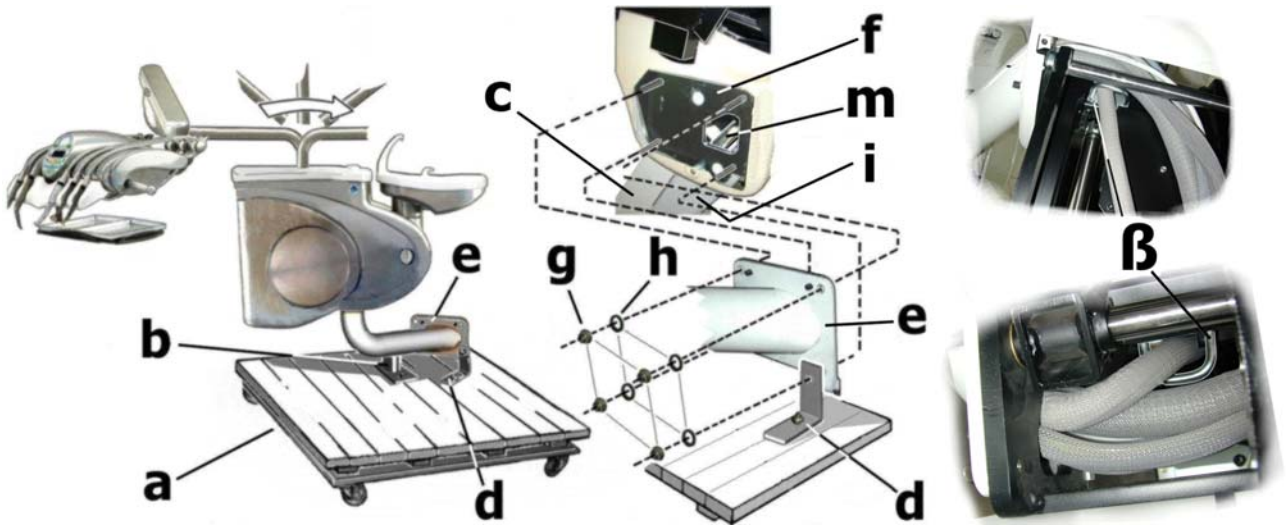
3) Remove the case of the power supply compartment and the two casing pieces from the articulated arm (**c** and **i**) in order to make the route to be followed by the cables to the floor visible when bringing the support (**e**) up to the attachment seat (**f**).

ATTENTION: the bundle of cables that comes out of the support (**e**) must pass over the cross member (**m**) that connects the two rods; only waste tubings have to pass across the sliding ring (part. **ß** - Pict. C1).

4) Connect the chair to the electricity supply. One the trolley (**a**) has been positioned next to the chair, remove the bracket (**d**) from the plate (**e**) and rotate the unit on the pin (**b**) to bring the plate (**e**) parallel to the chair.

5) Position the chair attachment seat (**f**) at the same height as the plate (**e**), then bring the unit closer to the chair to make the plate (**e**) match with the attachment seat (**f**), passing the threaded pins through the holes (**h**) in the plate (**e**).

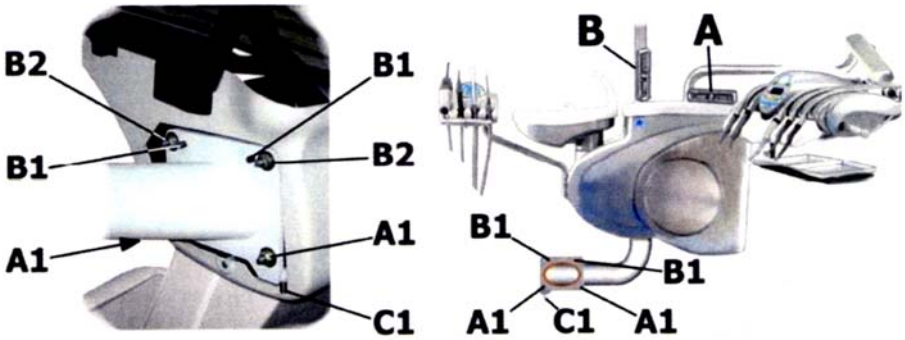
Before tightening the nuts all the way, level the dental unit, following the directions provided in the chap. **"LEVELLING THE DENTAL UNIT"**



Pict. C1 – *Installing the right-hand unit*

LEVELLING THE UNIT (Pict. D1)

First check that the chair base is properly secured to the floor and the stand is set in working position. Now check that unit is perfectly flat by placing the level at point **A** then at point **B**.
Correct level at point **A** by tightening or loosening the dowel (**C1**); then thoroughly tighten the two nuts (**A1**).
Correct the level at point **B** by tightening one by one the two dowels (**B1**); then thoroughly tighten the two nuts (**B2**).
These steps are necessary when the floor is not perfectly level.



Pict. D1 – *Levelling the right-hand unit*

INSTALLING THE DENTAL UNIT (only ambidextrous units) (Picts. C2 – D2)

Having ensured that the installation work has been performed correctly according to the indications given in the 1:1 scale installation plan and in this manual, perform the following operations in order:

1) Using dolly (**a**), place crate containing the unit near the chair.

2) Remove the cover to open and take out all the accessories attached to the unit.

Caution: The safety binding that prevents the tray arm from rotating **MAY BE REMOVED ONLY AFTER** the dental unit has been completely fastened to the chair.

3) Remove the casing on the supply compartment and the two casing pieces of the articulated arm (**f** and **g**) in order to make the route to be followed by the cables to reach the floor visible.

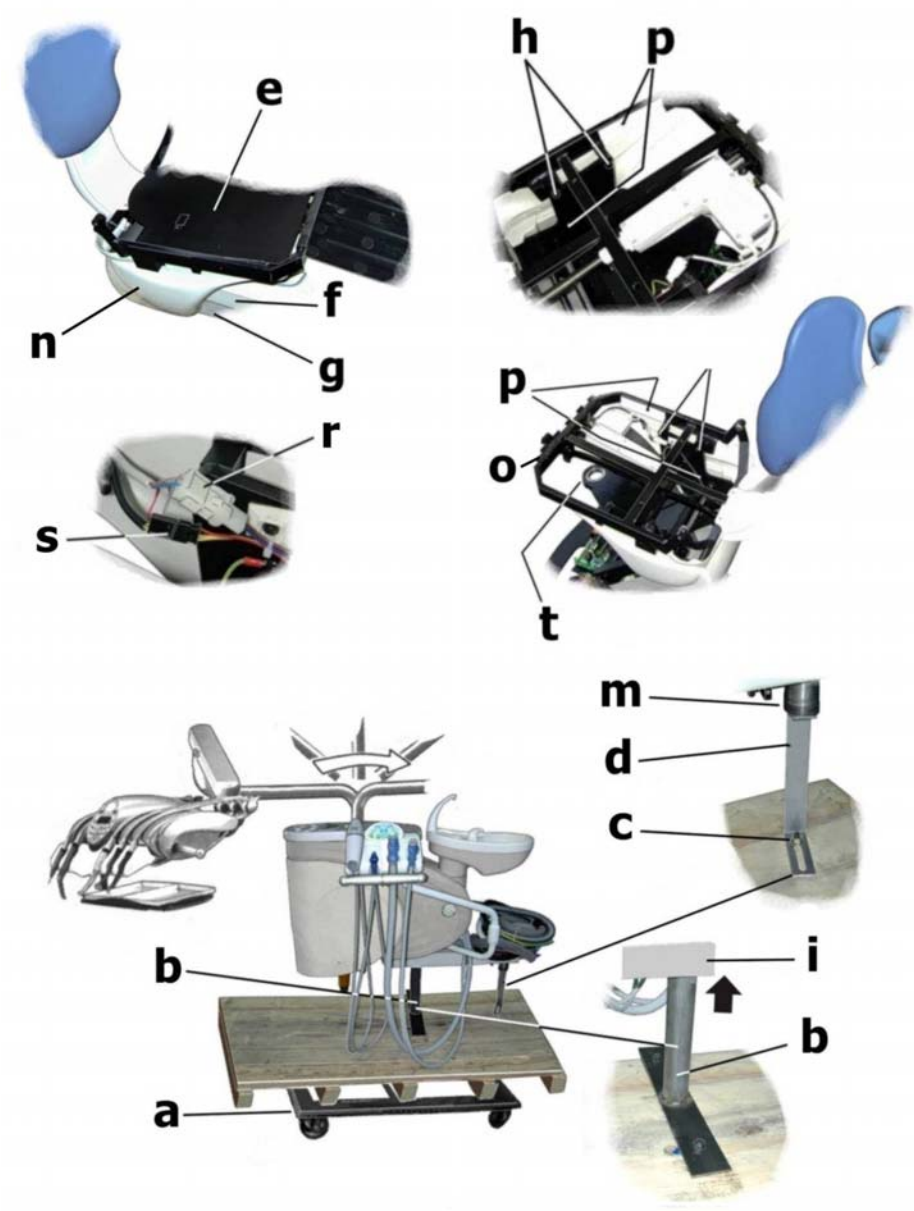
4) Remove the protection (**e**) fastened with Velcro and the cable protection (**j** – pict. D2) then unscrew the four clamping screws (**p**) to remove the case (**n**). Disconnect the two connectors (**r** and **s**) to allow the removal of the seat.

5) Remove the four seat clamping screws (**h**) and then raise the entire seat/backrest block.

Connect the chair to the electricity supply.

Picture C2 shows the sequence to be followed when bringing the platform closer in order to arrange the unit for connection to the chair.

Firstly, the fitter must loosen the nut (**c**), bringing the chair case closer and rotating the arm (**i**), on the pin (**b**) to take the trolley with the unit body as close as possible to the chair.



Pict. C2 – *Levelling the ambidextrous unit*

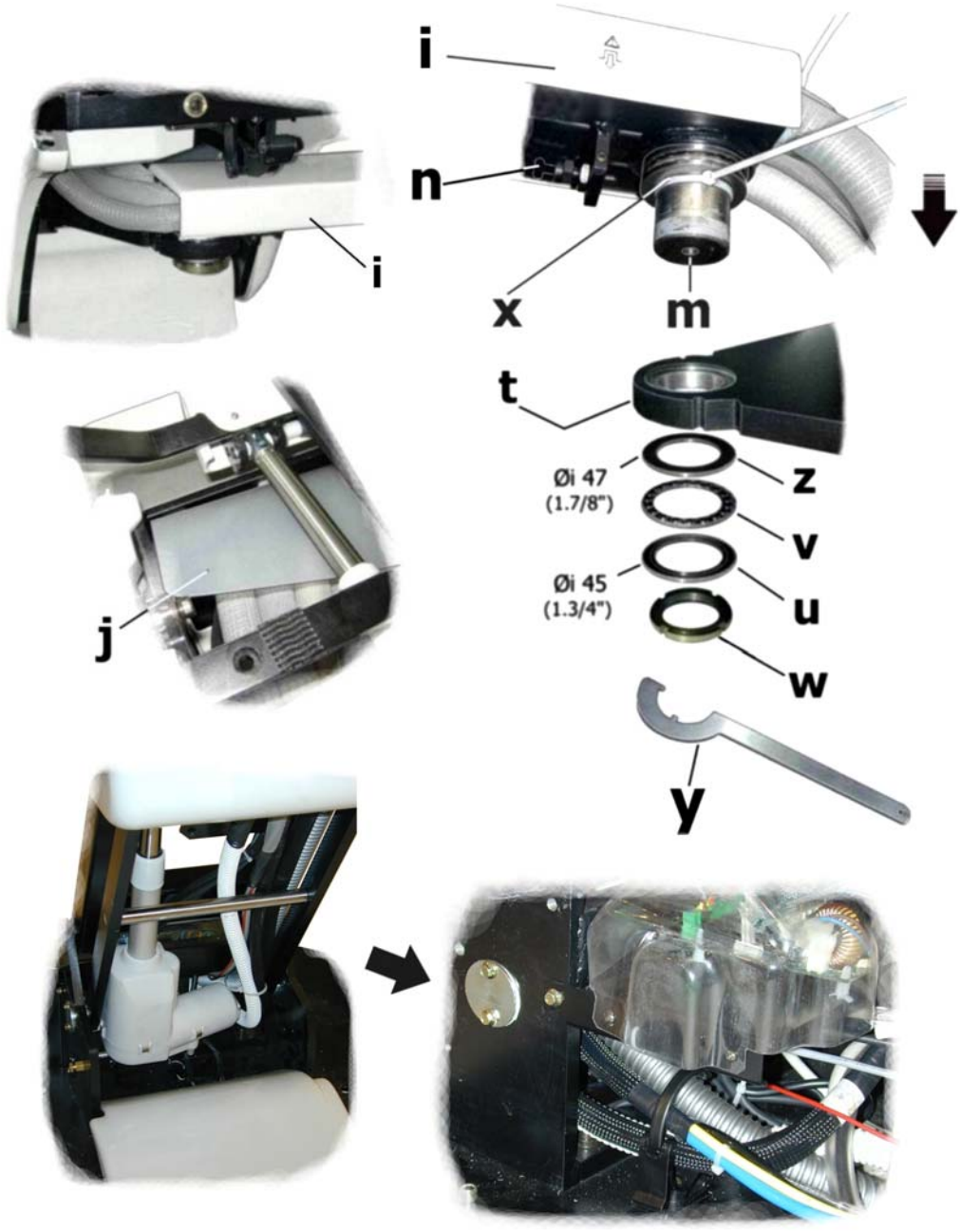
CONNECT THE AMBIDEXTROUS UNIT TO THE CHAIR **(Pict. D2)**

Completely lower the chair using the two buttons (**D1** and **D2** – pict. D) and proceed as follows:

- thread the cables and the hydraulic/pneumatic connections of the unit inside the chair;

ATTENTION: the bundle of cables that comes out of the support (**e**) must pass over the cross member (**m**) that connects the two rods.

- check the presence of the bearing and the thrust bearing ring (**m**) of the arm (**i**) in point (**x**), then bring the unit in to align the pin (**m**) with the hole on the fixing plate (**t**), then slowly raise the chair to thread the pin in completely;
- thread the thrust bearing ring (**z**) (with an interior diameter of **Øi 47** mm) followed by the ball-support cage (**v**) and the second thrust bearing ring (**u**) (with an interior diameter of **Øi 45** mm) onto the pin (**m**) and tighten the self-locking ring nut (**w**); rotate the arm (**i**) until the piston pin is engaged (**n**) in the support seat (**t**) and then tighten the ring nut until it abuts (**w**) using the wrench (**y**);
- before assembling the seat/backrest block ensure that the cable cover (**j**) is mounted correctly.



Pict. D2 – *Connect the ambidextrous unit to the chair*

INSTALLING THE UNIT'S FEED BOX **(Pict. 1.1, 1.2 and 1.3)**

The service technician is also to secure at installation the supply box and make the hydro-pneumatic and wiring connections as shown in Pict. 1.1, 1.2, 1.3
After disconnect the main power by the main switch, make the following operations:

1) Unscrew the three screws (part. **1.1.1** – pict. 1.1) and pull the protection (**1.1.2**); connect the main power cable, from the floor; to the three terminal of the main board (marked with **"LINE"** – pict. 1.3); the **brown** cable have to be connected to the terminal marked **L~**, the **blue** cable to the terminal **N~**, the **yellow/green** cable tothe terminal ⏚ (see pict. 1.3);

2) Insert the connectors (**1.1.3** and **1.1.4 –** pict. **1.1**) and (**1.4.10** and **1.4.11** – pict. **1.4A**) of the cables coming off from the proper seat on the electric circuit code E6000501, marked with **CN1** – **CN14** – **CN19** – **CN20**.

3) Insert the water, pneumatic and discharge connections to the proper pipe fittings placed on the floor of the dental cabinet (see .picts. 1.5 and 1.1 and the installation plan by 1:1 scale).

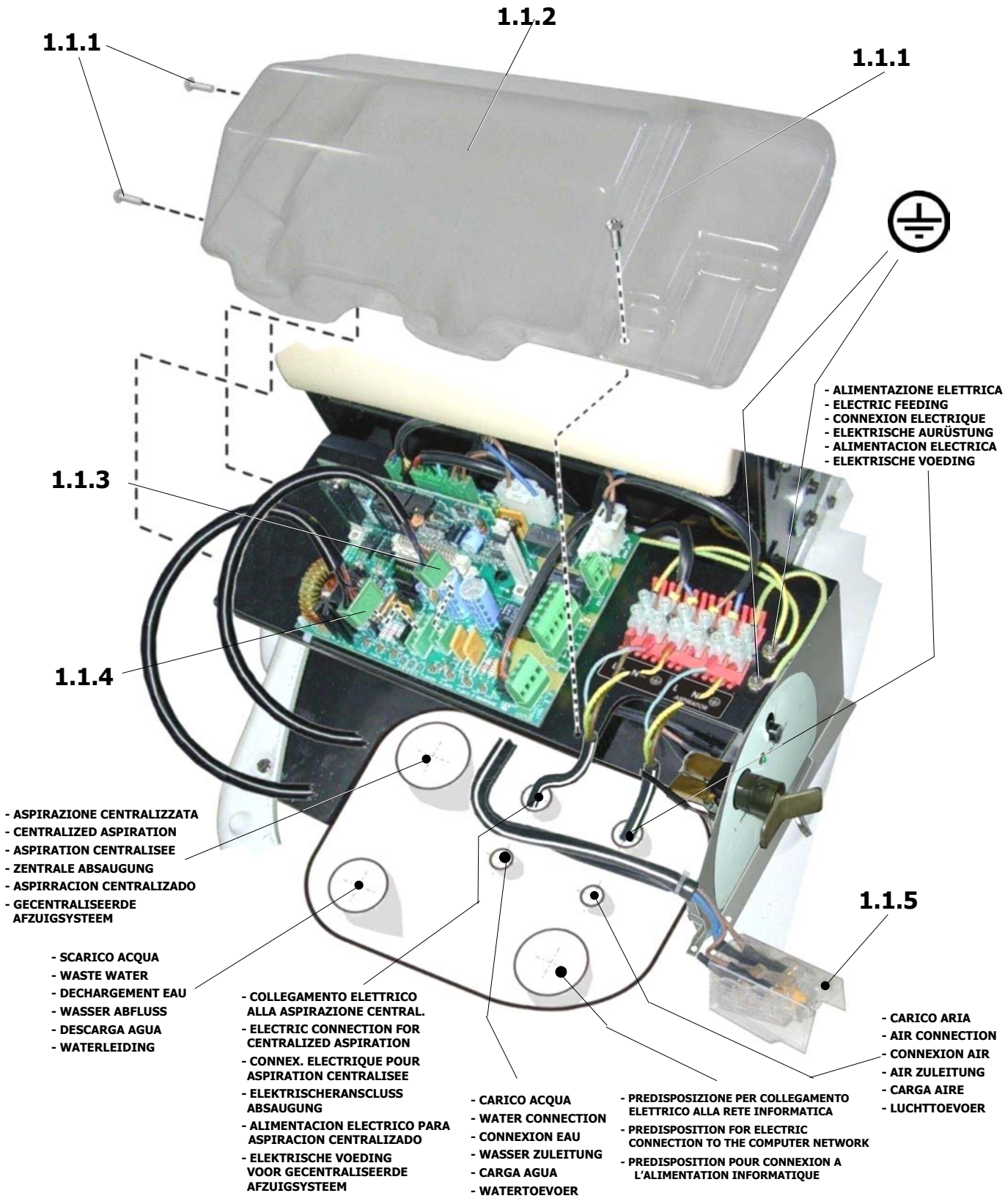
4) Connect the foot control following the instruction by the chapter "FOOT PEDAL CONNECTIONS"

5) For connect the Unit to a centralized suction-system, see chapter "CONNECTION TO A SUCTION-SYSTEM.

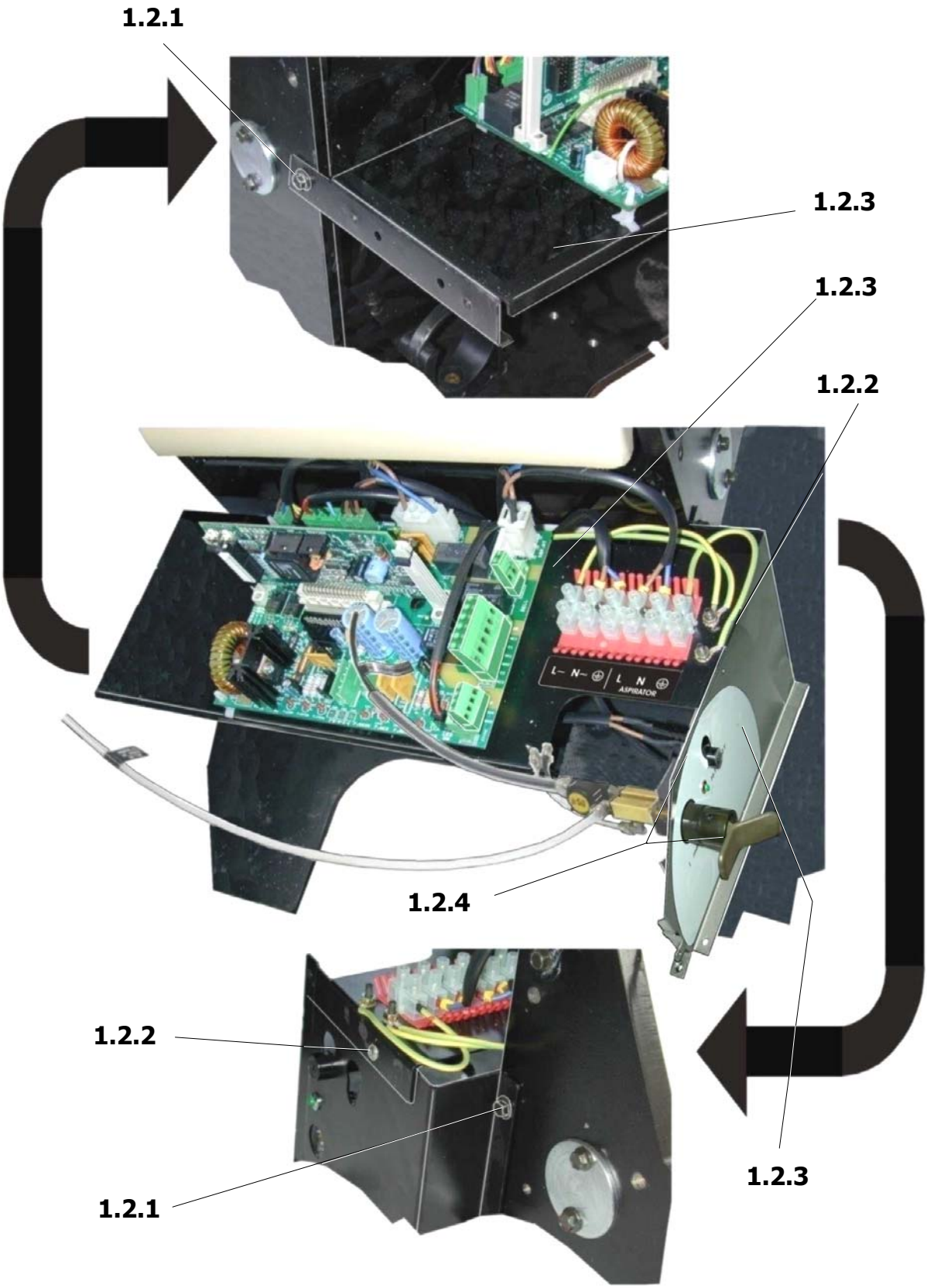
Before making the under mentioned operations, mount again the protection (**1.1.2**) and fix it through the screws (**1.1.1**), then mount the cover (**1.8.1**) and fix it with the screw (**1.8.2** – pict. **1.8**).

CONNECTION FOR FOOT PEDAL **(Pict. 1.4A - 1.4B – 1.5)**

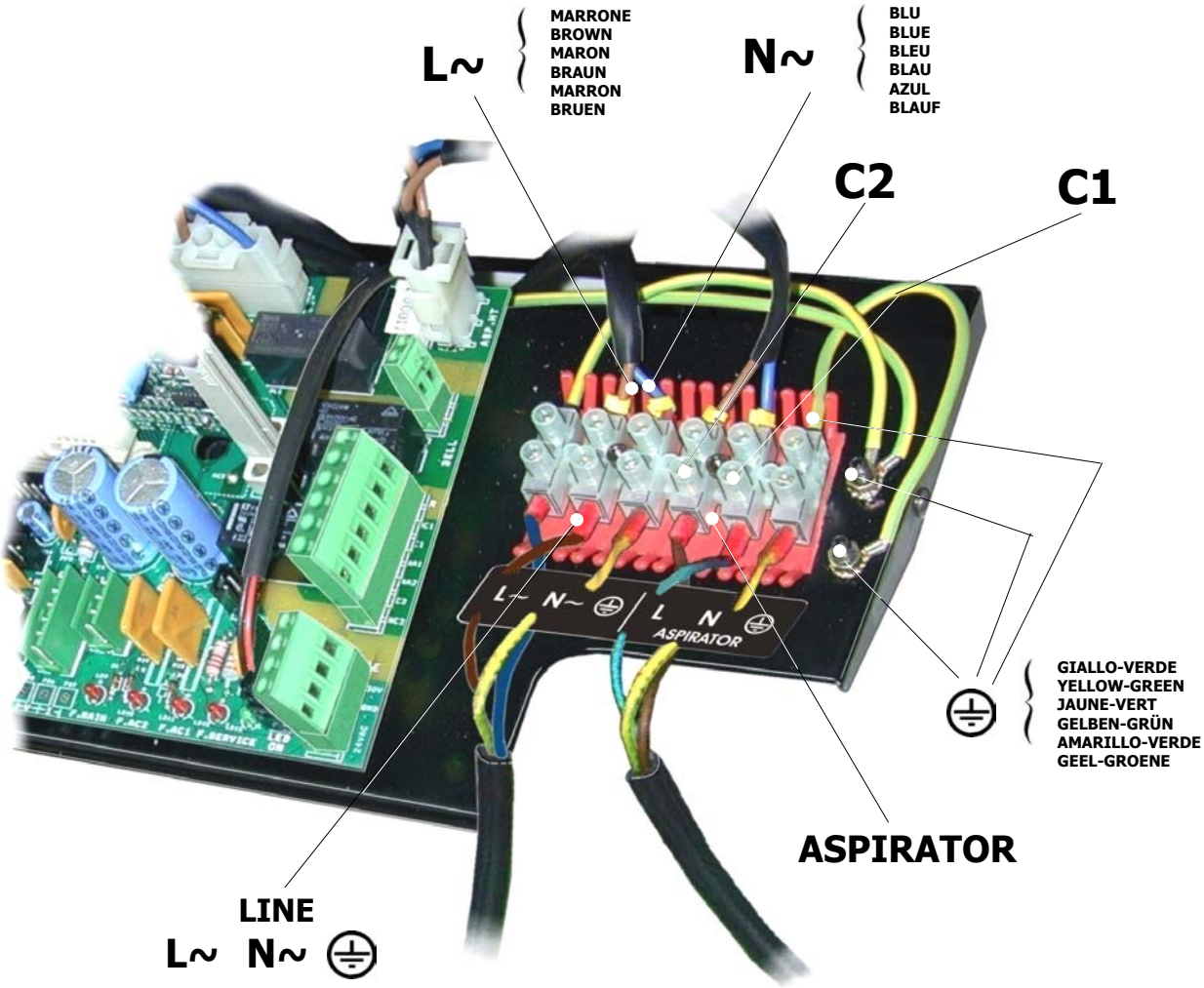
- Get up the unit to the maximum height; (**only for the ambidextrous version**) after mount the plastic cover of the chair base (**1.4.2**), insert throw the preposed chair cover hole terminals (**1.4.8**) foot pedal cable and fairlead (**1.4.6**).
- Insert terminals (**1.4.8**) to the proper connections on the circuit E6000501, and then connect the three tubes (**1.5.1**, **1.5.2**, **1.5.3**), with the proper inserts, to the correspondent tubes connected to the unit (see pict. **1.5**).
- Connect the **yellow/green** cable fixing the ring-terminal cable (**1.4.12**) to one of the two heart-screws marked on pict. 1.4B with the bolt and the notched washer.
- Mount the cable clamp (**1.4.7**) under the fairlead (**1.4.6**) and fix it with proper screws (**1.4.9**); in case of an ambidextrous unit, the cable clamp (**1.4.7**) must be fixing within the two screws (**1.4.13**) and the proper washers (**1.4.14**) added with the unit.
- Assemble the plastic cover (**1.4.2**), blocking it with screws (**1.4.3**).



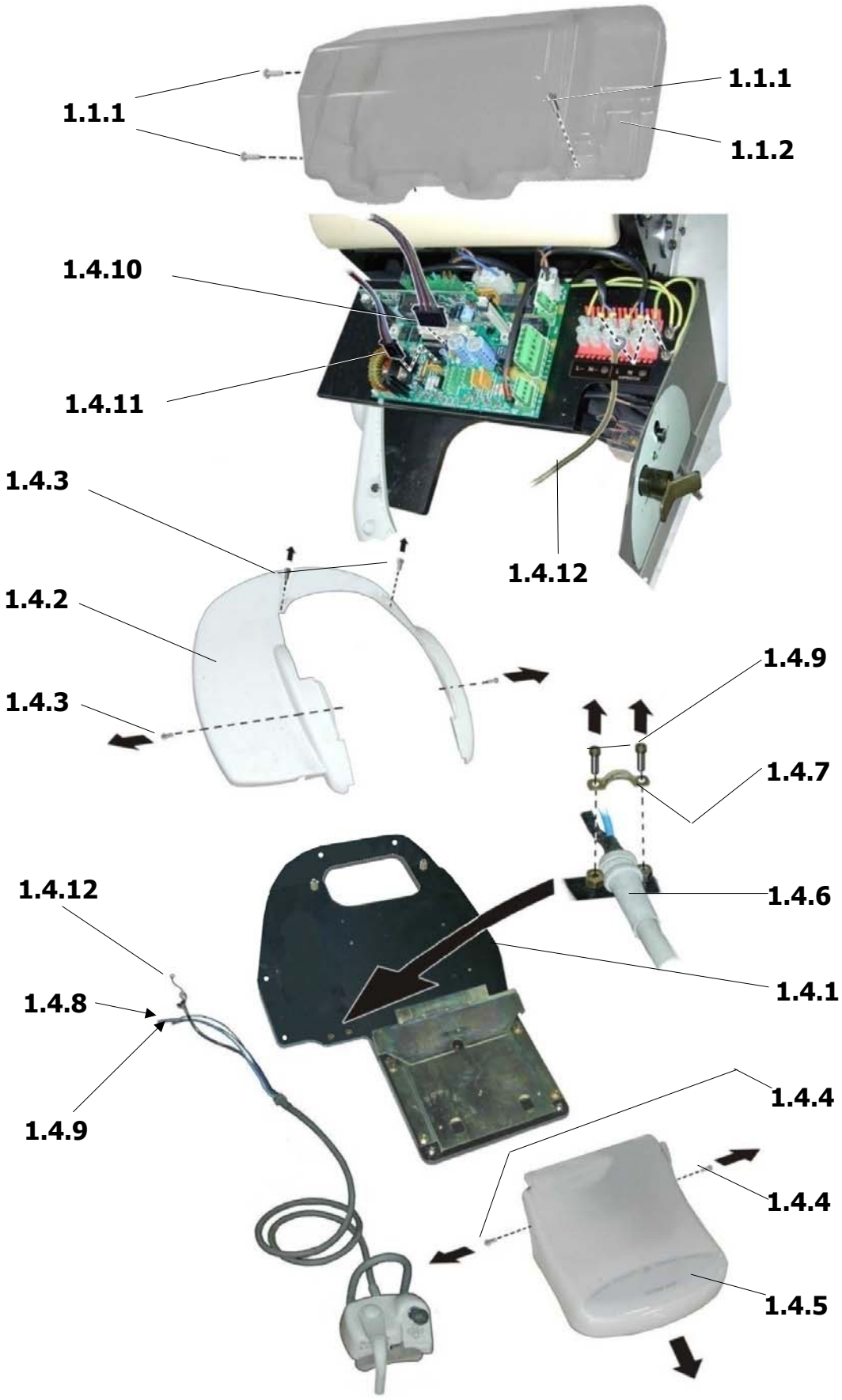
Pict. 1.1 – *Feeding box – dental unit connections*



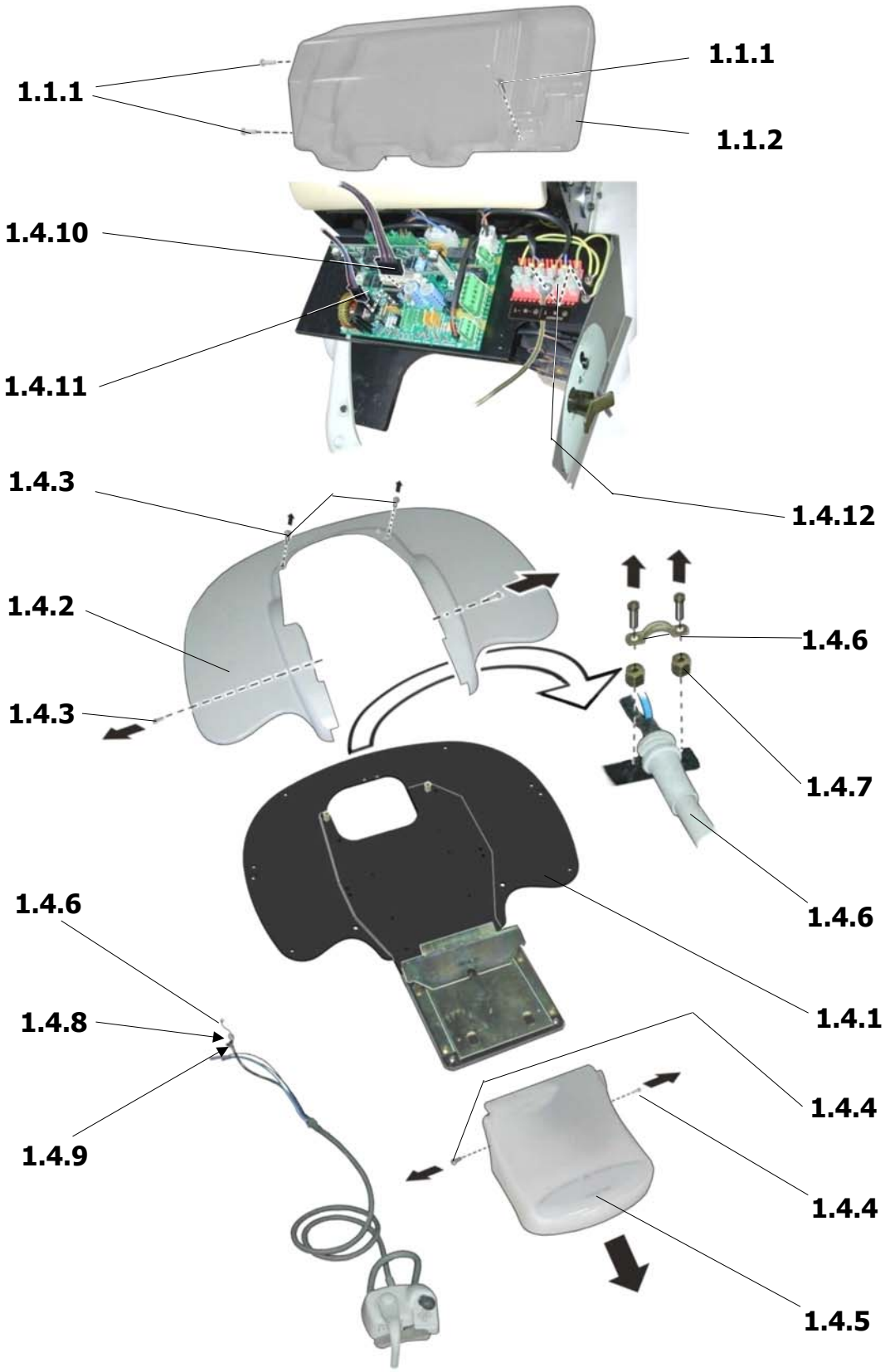
Pict. 1.2 – *Feeding box – dental unit connections*



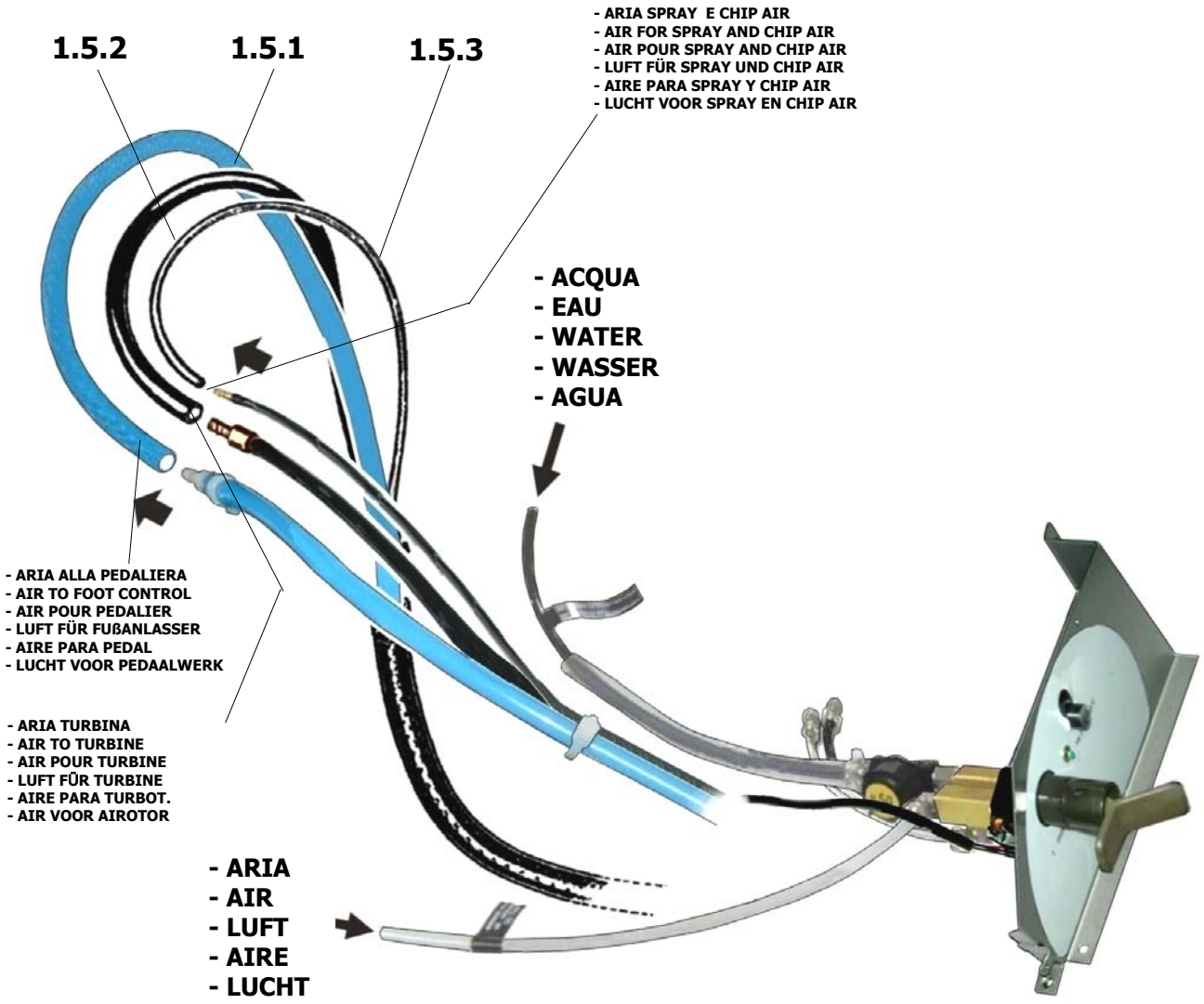
Pict. 1.3 – *Feeding box electric connections*



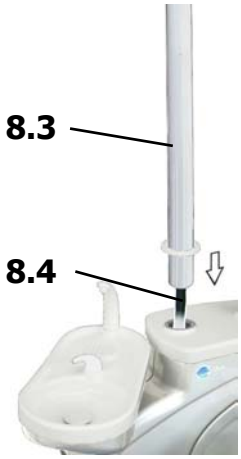
Pict. 1.4A - *Foot control installation (right-hand unit)*



Pict. 1.4B - *Foot control installation (ambidextrous unit)*



Pict. 1.5 – *Foot control hydraulic connections*



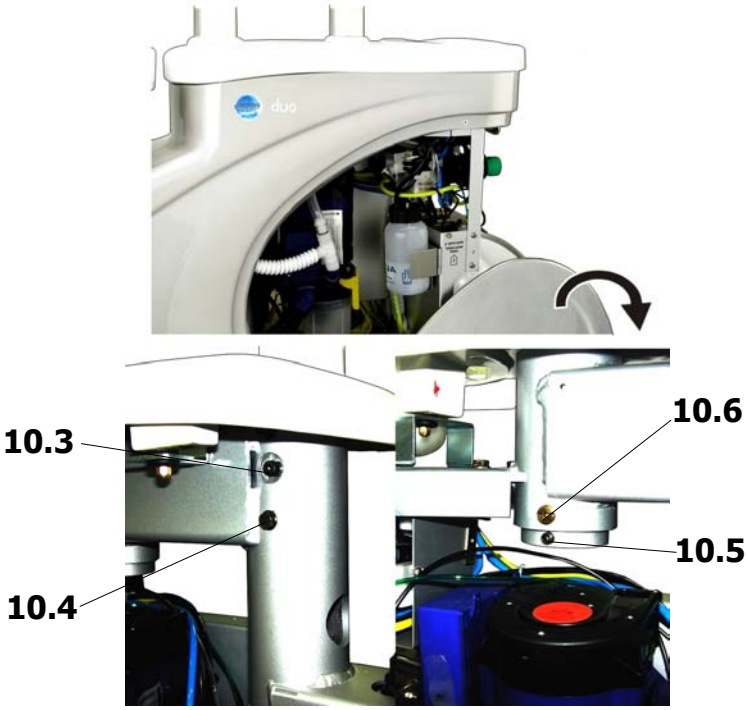
Pict. 1.7 – *Fitting the operating lamp column*

FITTING THE OPERATING LAMP COLUMN (Pict. 1.7)

- Before beginning installation, you must gain access to the internal part of the dental unit. Proceed as follows:

a) twist the side cover downwards (pict. 1.7A)
b) unscrew and remove the threaded knobs (**10.4**) and pull off the side cover (**10.3**)
c) fit the supporting pole (**8.3**) into its seat after inserting the electrical power cables (**8.4**)

N.B.: To prevent damage, this cable **must not be pulled too hard from inside the main section of the dental unit.**



Pict. 1.7A – *Adjusting the clutches and arm stops*

ADJUSTING THE CLUTCHES AND ARM STOPS (Pict. 1.7A)

After fitting the two columns into their seats, adjust the clutches and the stops as follows:
- Rotate the dentist's tray and operating lamp arms as required to reach the correct working positions relative to the chair.
- Tighten the security dowels as far as they will go and tighten or slacken the clutch adjustment screws to obtain reasonably free rotational movements.
  For ease of identification of the clutch stop and adjustment parts, refer to the following table:

Part. of dental unit	Rotation stop dowel (part. no.)	Clutch screw (part. no.)
Operating lamp	**10.4**	**10.3**
Dentist's tray	**10.5**	**10.6**

SAFETY COVERS

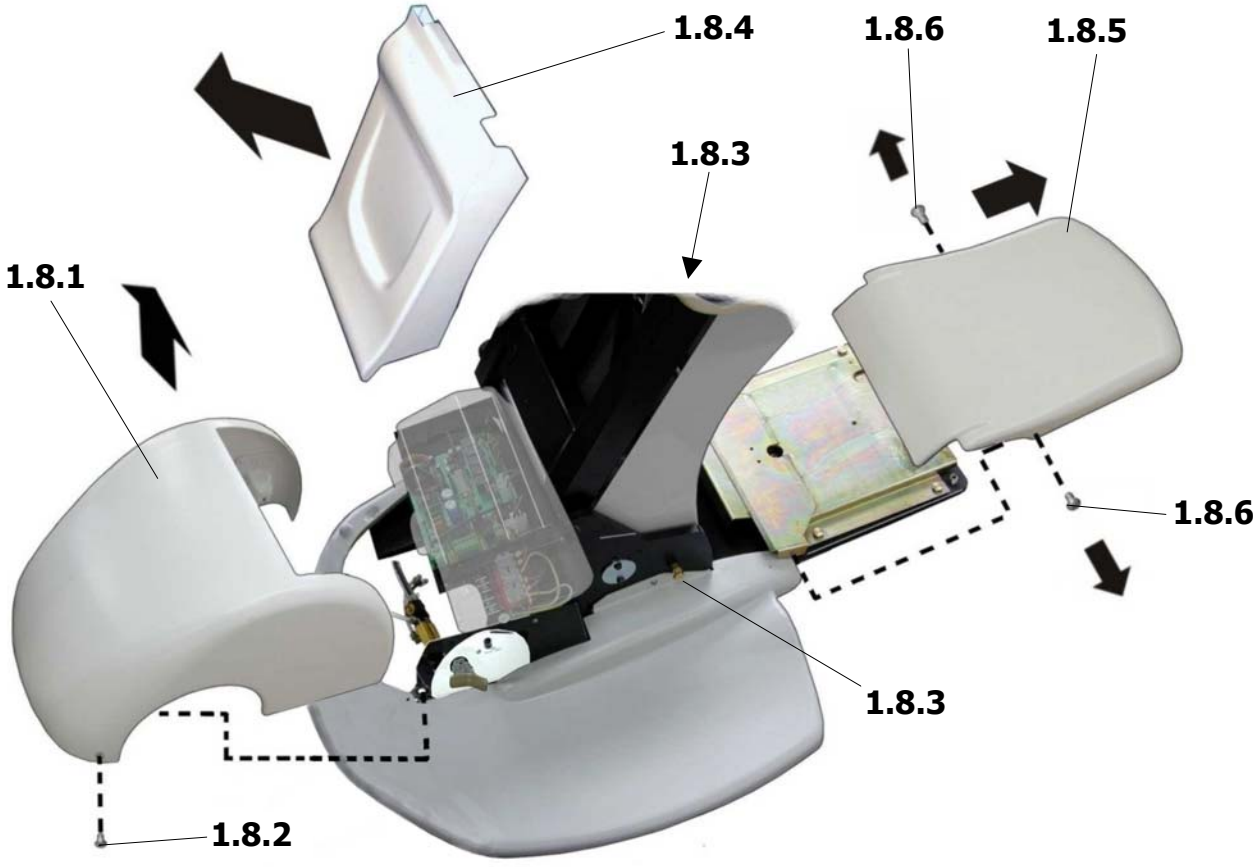
***COVER FOR CHAIR CIRCUITS, FOR SUPPLY BOX AND SAFETY PEDESTAL* (Pict. 1.8)**

The Castellini Company strongly recommend that cover (1.8.1), which prevents access to parts connected to the electrical mains, be removed with the following procedure only by qualified persons trained and authorized by Castellini:
- Take the chair to a height just below the maximum and switch off the electricity supply;
- Remove the screws (**1.8.2**);
- Grasp the cover (**1.8.1**), slide it forward and lift, unhooking it from the two anchoring pins (**1.8.3**).

Attention: the power terminal board and main switch contacts are always live! After cover (**1.8.1**) has been replaced, the three securing screws (**1.8.2**) must be tightened.

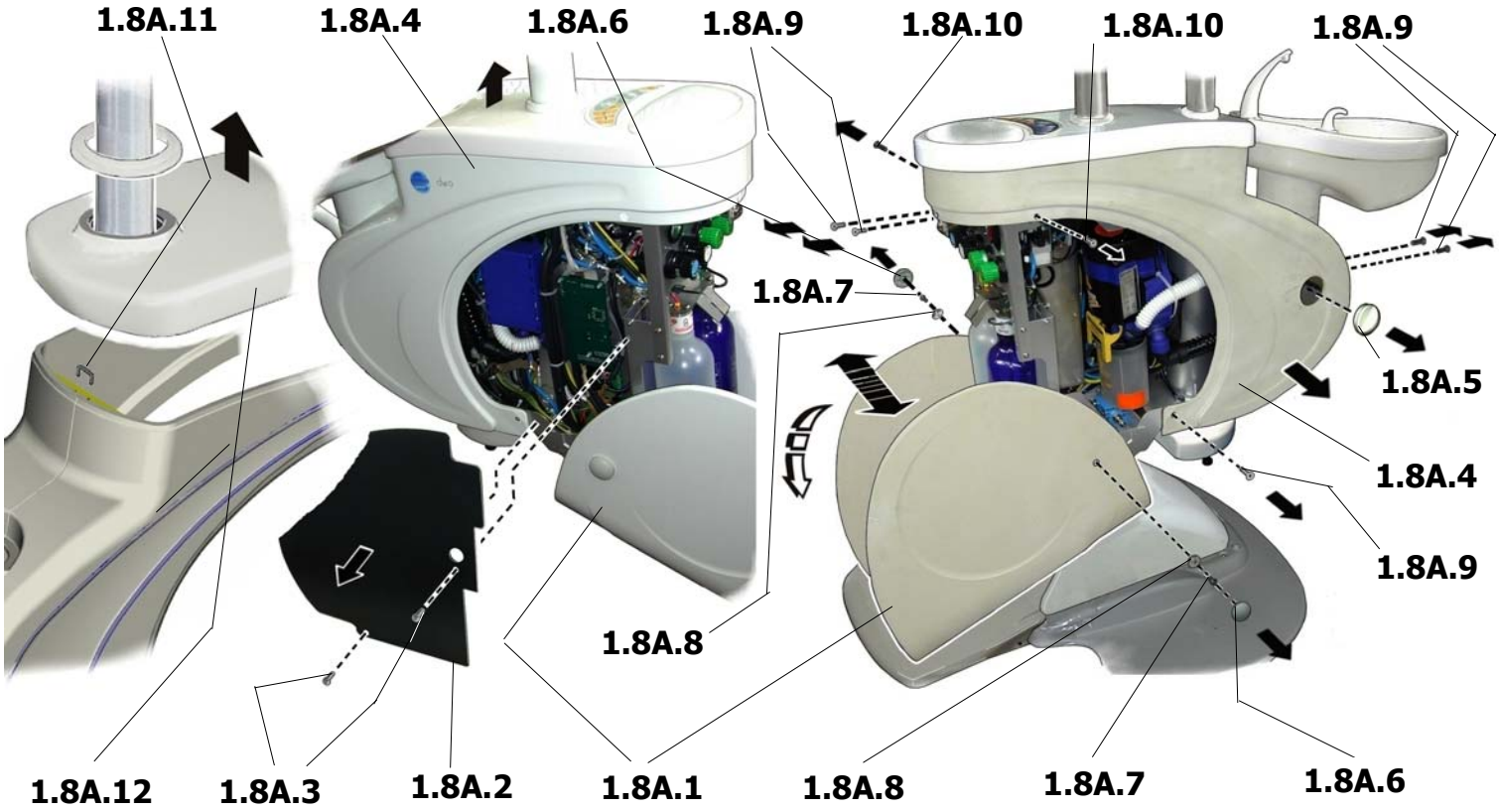
The plastic cover (**1.8.4**) protect the contact with the up/down mechanical device of the chair; to dismout it, it's necessary to slide it upward, pulling and disconnecting it from its seat.

The plastic cover of the security base (**1.8.5**) is necessary for protect the chair security anticrushing device; to dismout it it's necessary unscrew the two fixing screw (**1.8.6**) and pull it

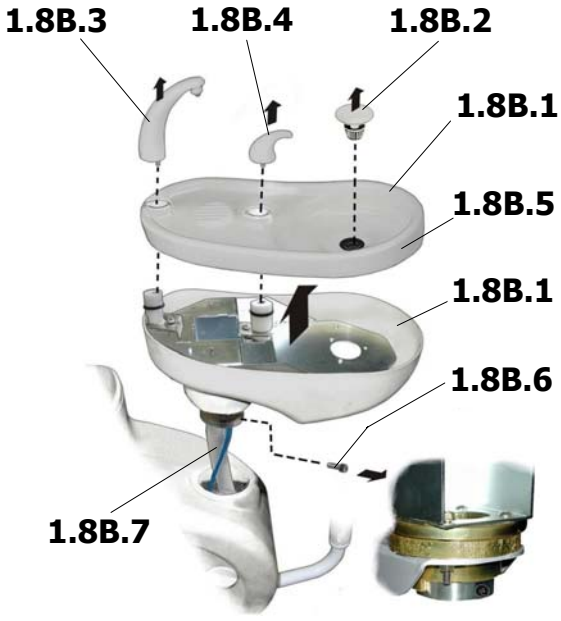


Pict. 1.8 – *Safety covers for chair base*

HYDRAULIC GROUP SAFETY COVERS (Picts 1.8A - 1.8B)



Pict. 1.8A – *Hydraulic group safety covers*



Pict. 1.8B – *Bowl safety covers*

Before accessing the general electrical switching panel for the secondary low voltage circuits and their corresponding fuses, it **is essential to switch the main switch on the unit to the off position**.

Rotate downwards the mobile case (**1.8A.1**), and remove the protection (**1.8A.2**) and the respective clamping screws (**1.8A.3**).

Remove the mobile case (**1.8A.1**) lift the covering plugs (**1.8A.6**) and remove the clamping screws (**1.8A.7**), and washers (**1.8A.8**); then widen the two sides of the aforesaid case before sliding it downwards, by pulling slightly outwards with the hands.

In order to access the components inside the unit body otherwise inaccessible even after the cover has been dismantled (**1.8A.7**), proceed as follows:
- remove the suction filter cover (**1.8A.5**) as indicated in the picture.
- remove the 4 screws (**1.8A.9** – **1.8A.10**), lift the ceramic cover (**1.8A.12**), pull off the "**U**" stopper pin (**1.8B.11**) and extract the sides (**1.8A.4**).

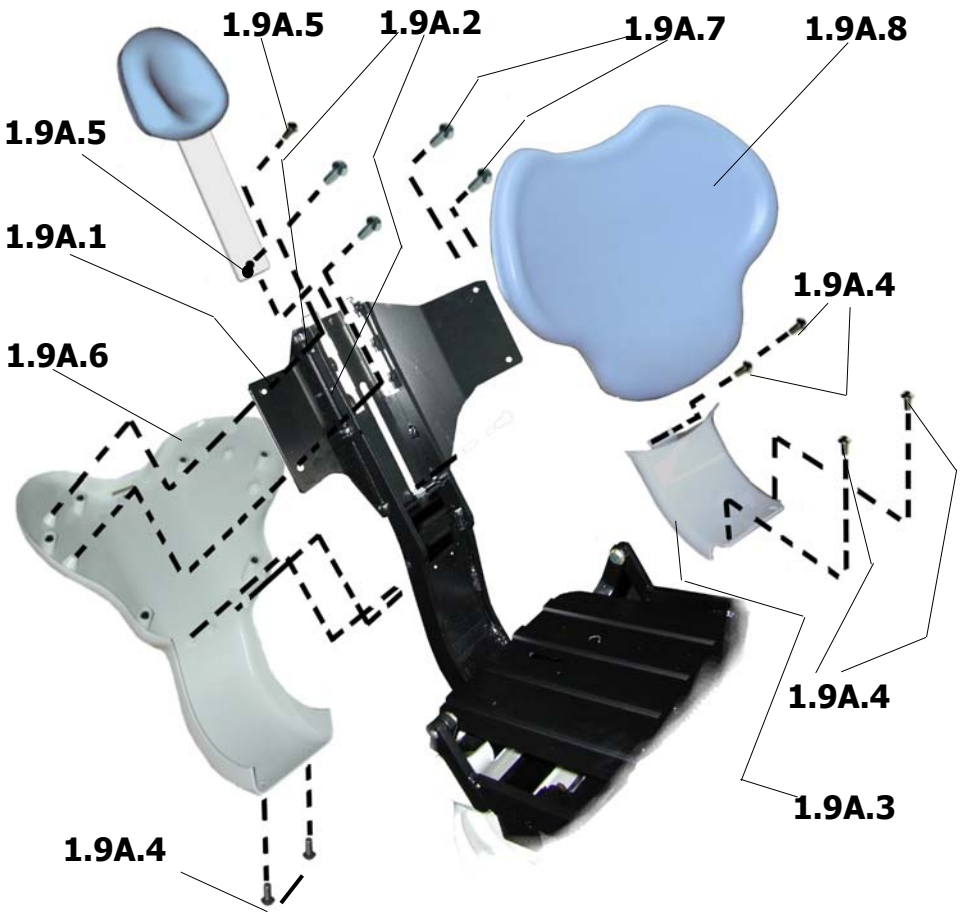
N.B.: the screw (**1.8A.10**) **is longer than** the other 3.

To dismantle the cuspidor case (**1.8B.1**) extract the filter (**1.8B.2**), the two fountains for water to the cup/cuspidor (**1.8B.3** – **1.8B.4**) and delicately lift the ceramic cover (**1.8B.5**);

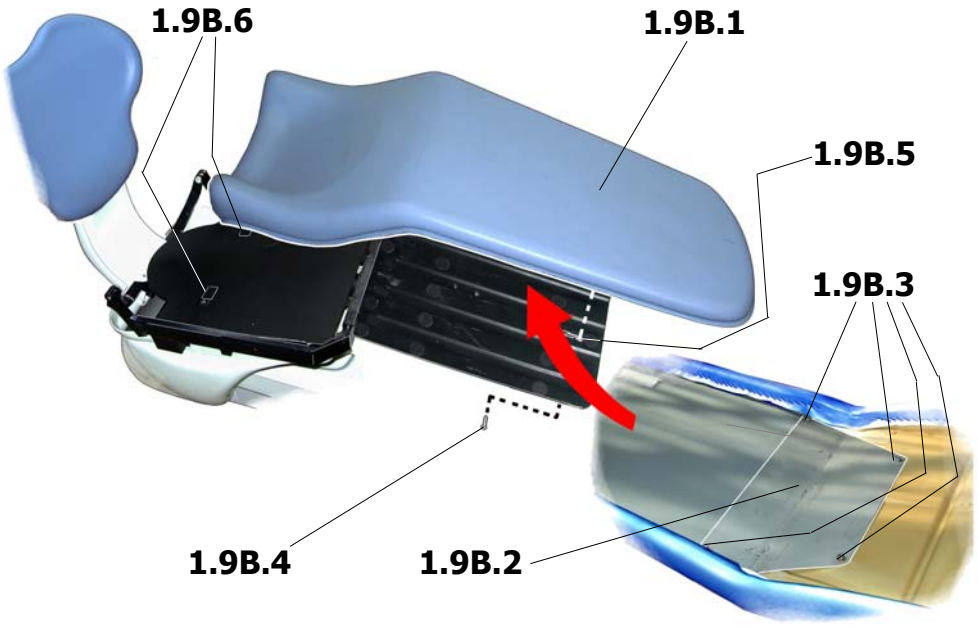
- with the sides of the body (**1.8A.4**) dismantled previously, remove the rotation stop screw (**1.8B.6**), inside the unit body disconnect all the hydraulic connections to the cuspidor body; lastly extract the entire set and remove the case from its seat (**1.8B.1**).

ATTENTION: access to the inside part of the equipment is permitted to qualified technicians authorised by the Manufacturer only.

FITTING THE CHAIR UPHOLSTERY (Picts 1.9A – 1.9B)



Pict. 1.9A – *Fitting chai backrest and headrest upholstery*



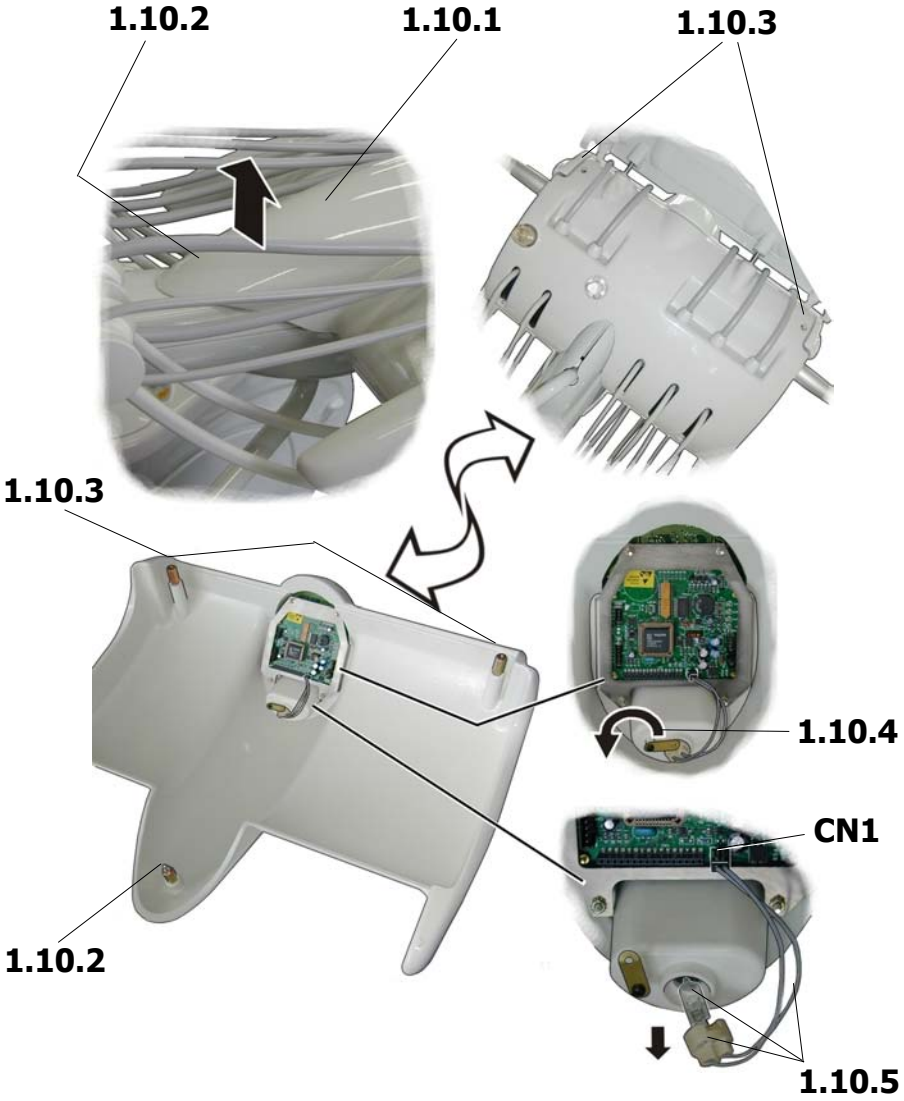
Pict. 1.9B – *Fitting seatrest upholstery*

The chair is packed with the seat upholstery removed to prevent the risk of damage during transport. To fit the upholtery, carry out the following steps (Pict. **1.9A** e **1.9B**):

- Fit the rear backrest cover (**1.9A.6**) using the four screws (**1.9A.7**) and 2 screws (**1.9A.4**) provided.
- Fit the front backrest cover (**1.9A.3**) using the four screws (**1.9A.4**) provided.
- Insert the headrest, removing the screw (**1.9A.5**); if necessary, adjust the 2 screws (**1.9A.2**) so that the rod slides more or less freely; replace the screw (**1.9A.5**) to prevent the headrest from being pulled out too far.
- Fit the backrest upholstery (**1.9A.8**) in place, starting from the middle fasteners, and then proceeding to the lower and upper fasteners.
- **Position the chair seat and backrest at the maximum height**
- Overturn upholstery (**1.9B.1**), remove the 4 screws (**1.9B.3**) and take off the metal supporting frame (**1.9B.2**).
- Apply the fastening screw (**1.9B.4**) on the bottom of the front part of the seat upholstery (**1.9B.1**) leaving it loose.
- Position the upholstery on the metal frame, passing the head of the screw through the front (widest) part of the slot (**1.9B.5**)
- Place the seat upholstery on the metal supporting frame and adjust it so that it fits correctly on the rear part. Then press to cause it to adhere to the two velcro inserts (**1.9B.6**).

N. B.: while carrying out the above steps **alwas try to keep the seat upholstery in a horizontal position** to avoid creating permanent creases and other surface imperfections.

REPLACING THE LAMP OF THE NEGATOSCOPE FOR INTRAORAL X-RAYS (Pict. 1.10)



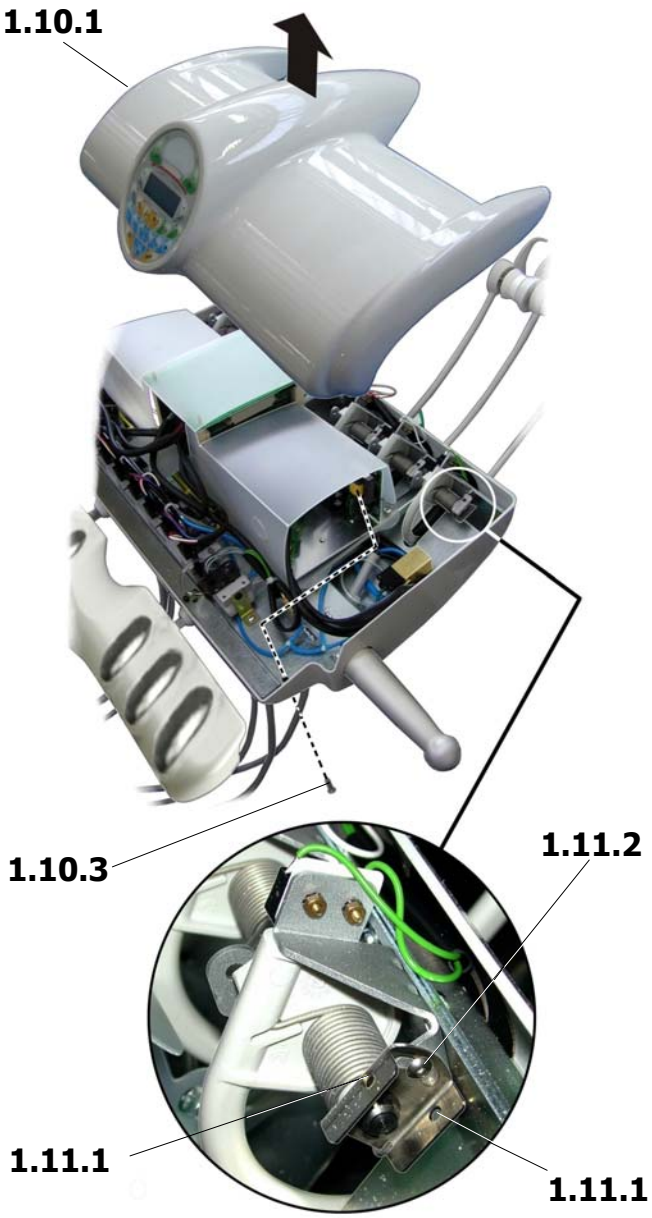
This lamp replacement operation may be carried out solely by technical personnel authorised by Castellini, according to the following instructions:

- switch off the dental unit and remove the instruments from their holders in the instrument tray;
- unscrew the fastening screws (**1.10.3**) situated on the front of the instrument tray cover (**1.10.1**);
- lift the rear part (**1.10.2**) of the instrument tray cover and then lift and turn it 180° to make the job easier;
- turn the locking lever of the lamp holder (**1.10.4**) as shown in the picture and then remove the lamp holder and lamp;
- replace the lamp (**1.10.5**), after removing it from the holder. **Use only original replacement lamps supplied by the manufacturer**, making sure that the power indicated on the lamp (5 W) corresponds to the rating shown on the negatoscope.

N.B.: Do not touch the bulb with bare hands, in the event of accidental contact cleanse using alcohol.

Pict. 1.10 – *Replacing the negatoscope lamp for intraoral x-rays*

ADJUSTING THE TENSION OF THE LEVERS ON THE INSTRUMENT TRAY MODEL S.P.R.I.D.O. (Pict. 1.11)



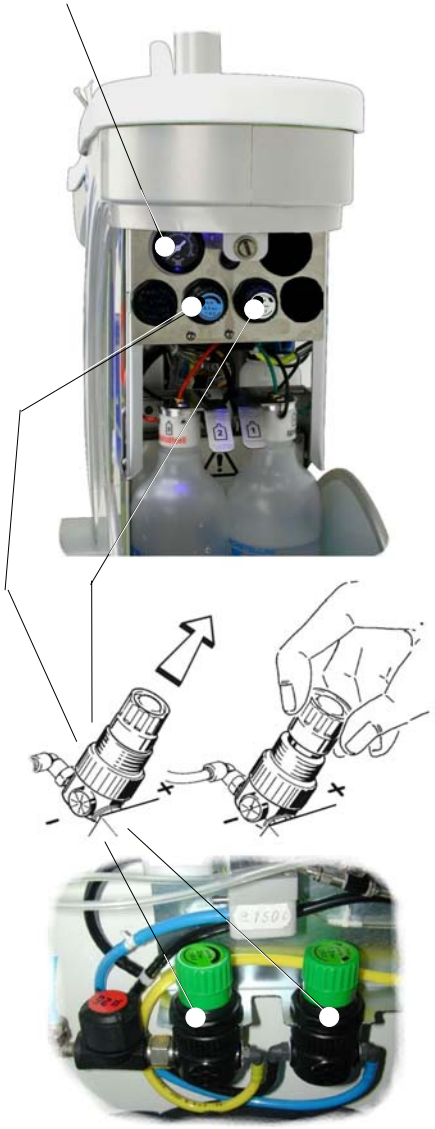
Pict. 1.11 – *Adjusting the tension of the levers on the instrument tray*

The return movement of the levers on the S.P.R.I.D.O. instrument tray is adjusted by the Manufacturer prior to dispatch of the dental unit.
Should further adjustment be required, carry out the following steps:

- Open the tray as shown in Pict. 1.10 (**1** and **2**).
- With the levers in the rest position, insert the tip of a screwdriver or another pointed tool through the two holes (**1.11.1**) of the lever-return spring adjustment plate. After loosening the retaining screw (**1.11.2**) turn the plate clockwise or anticlockwise to decrease or increase, respectively, the return force of the hose levers.

Then tighten the retaining screw and close the instrument tray.

1.12.1



Pict. 1.12 – *Adjusting the working pressures*

ADJUSTING THE WORKING PRESSURES (Pict.1.12)

The air and water pressures have been factory-set to ensure the proper operation of the dental unit.
The manufacturer is not responsible for faulty operation that may result from any tampering with these settings.
All future adjustments of the pressure regulators must be done as follows only by qualified personnel authorized by the Castellini Company:
- Pull the knob outwards to unlock the regulator. Then turn it clockwise to increase the pressure, or counterclockwise to reduce the pressure.
- After the pressure has been adjusted, lock the pressure regulator by pressing the knob in.

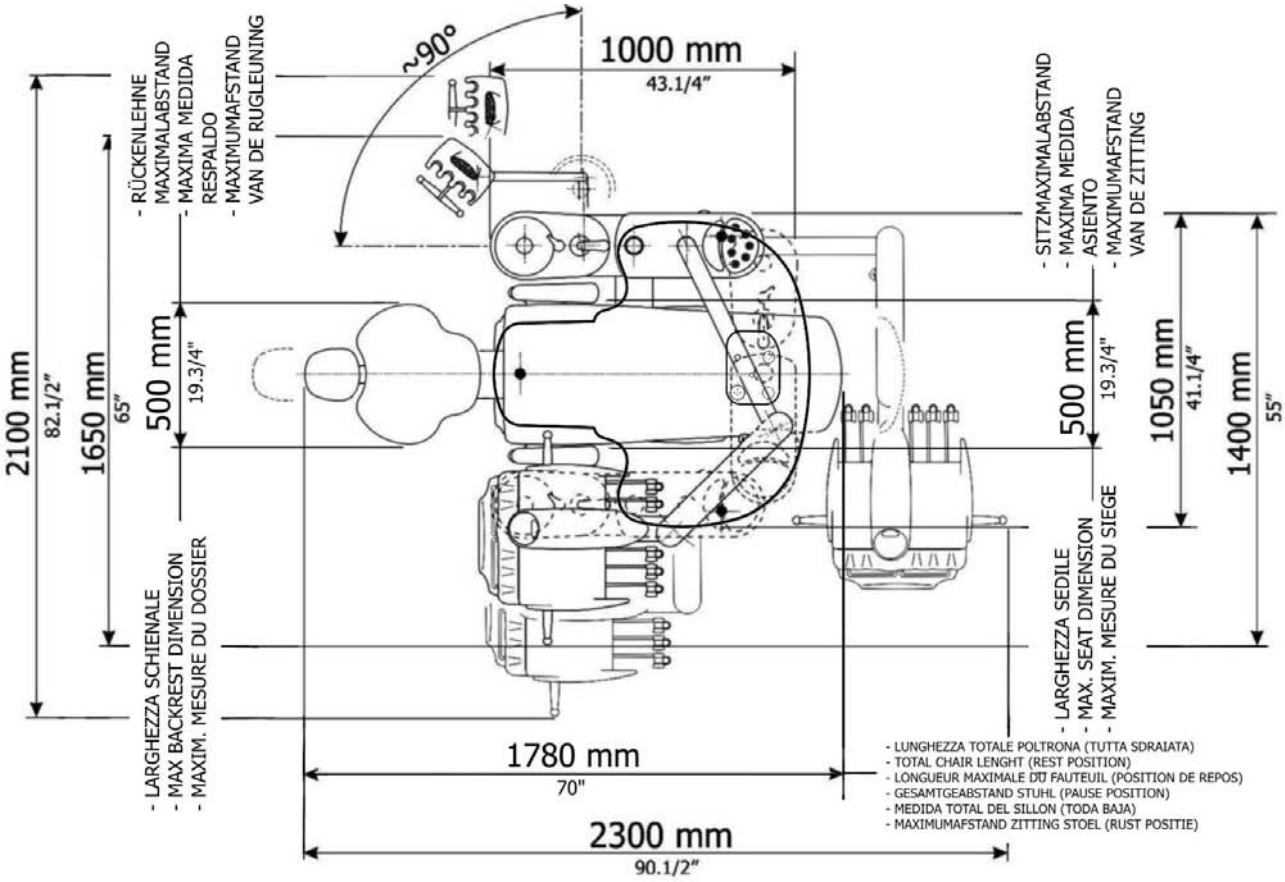
PRESSURE SETTINGS

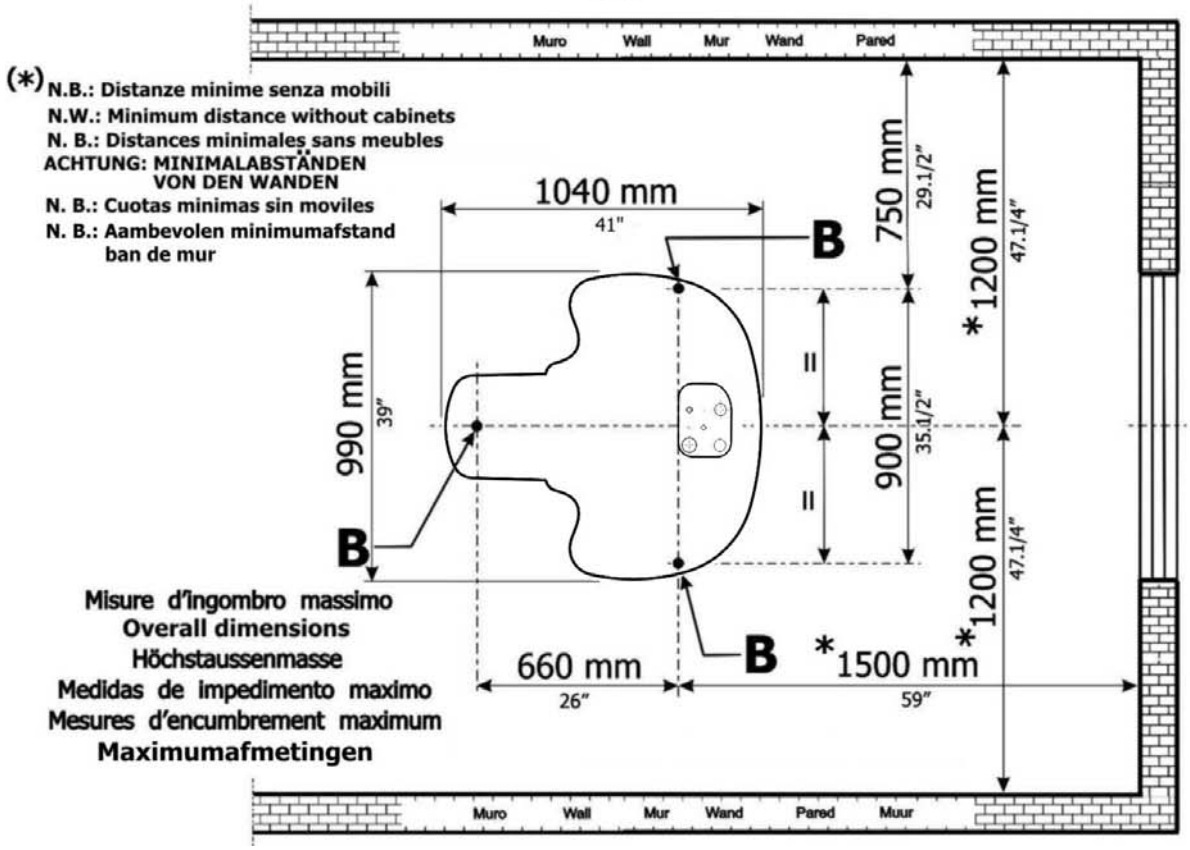
Drinking water - syringe - instrument spray water	90÷140 kPa (0,9÷1,4 bar);
Air for turbine and air micromotor	260÷280 kPa (2,6÷2,8 bar):

(measured with the appropriate pressure gauge placed between the connector and the turbine, Code N. L0001067).

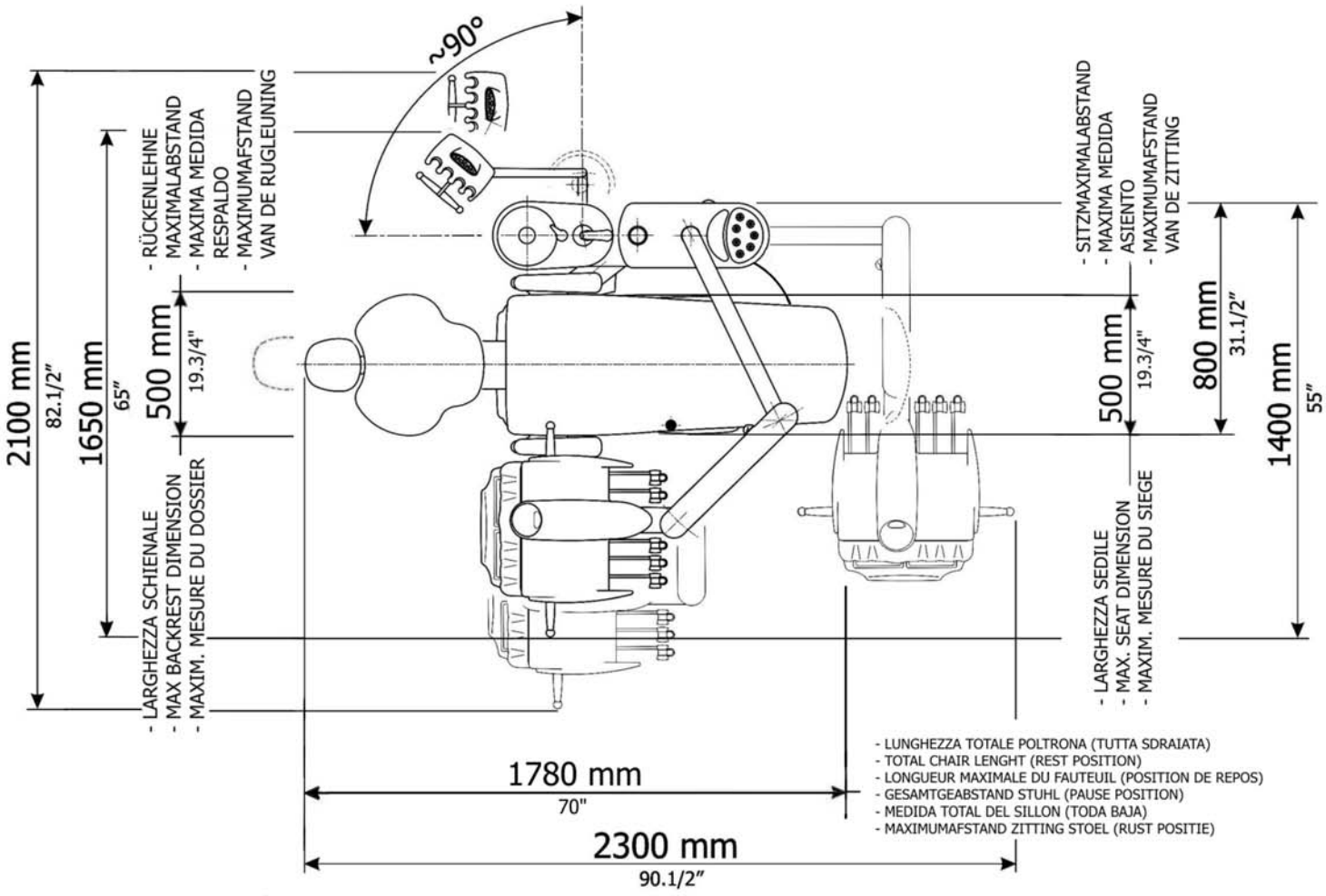
N.W.: For a correct pneumatic feeding of the unit, the manometer (**1.12.1**) placed on the general panel inside the unit body must show: 430÷470 kPa (4,3÷4,7 bar).

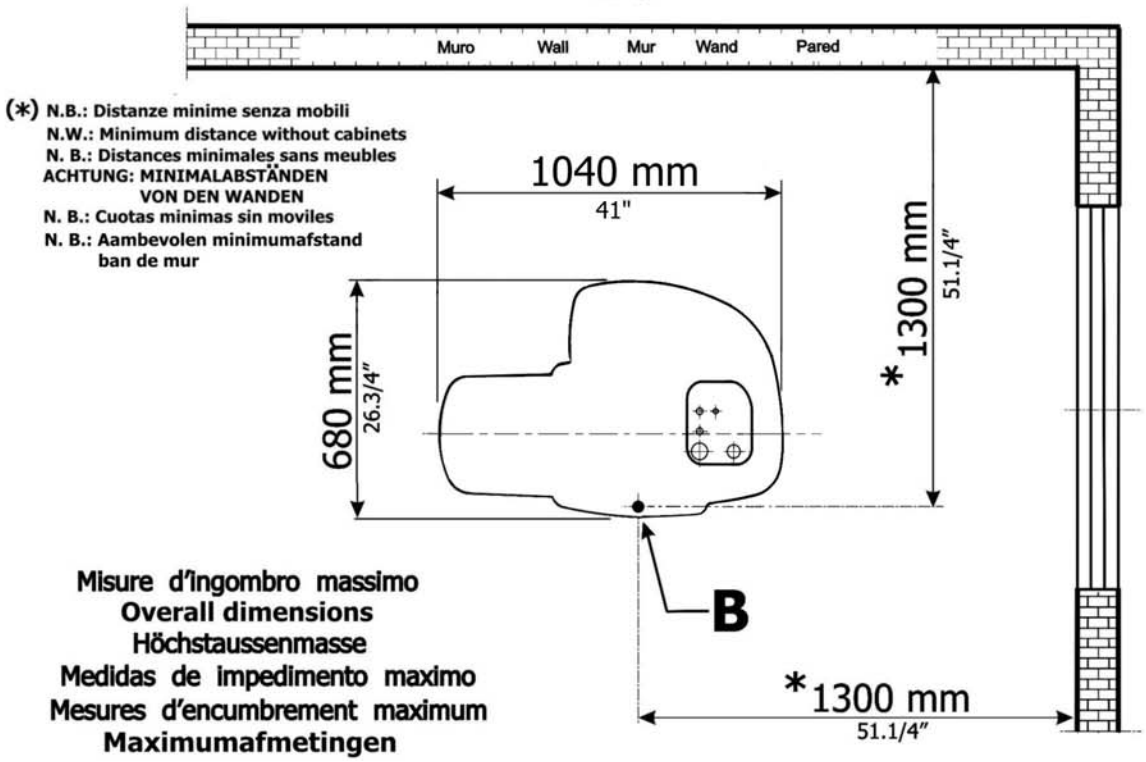
"DUO" Unit *(ambidextrous version)* + "DAMA" motor chair



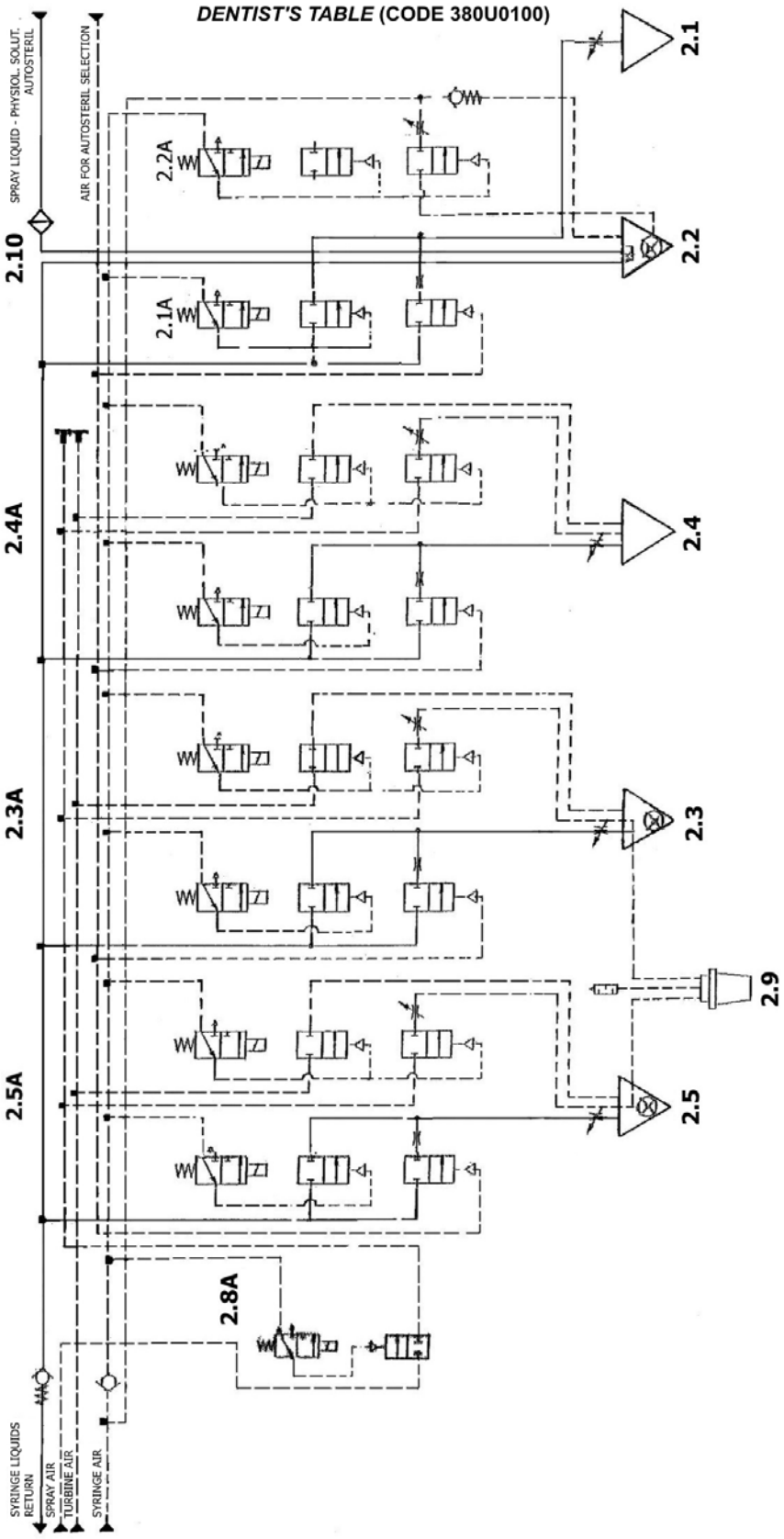


"DUO" unit *(right-hand version)* + "DAMA" motor chair





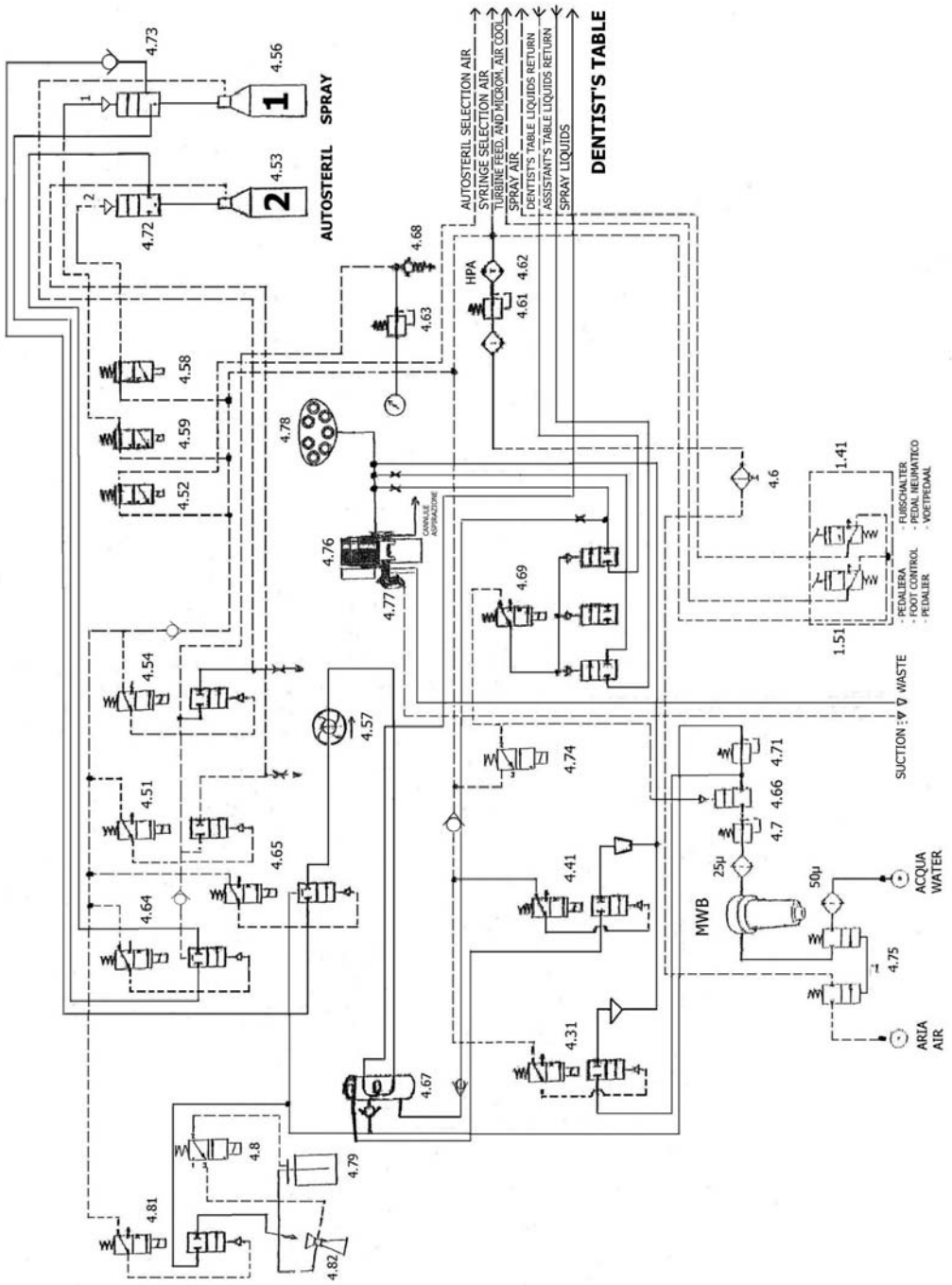
UNIT HYDRAULIC DIAGRAMS



***DENTIST'S TABLE* (CODE 380U0100)**

2.1 - Tartar scaler handpiece
2.2 - Syringe with fibre optics
2.3 - Turbine with fibre optics
2.4 - Micromotor
. 5 - Supplementary turbine with fibre opticss
2.9 - Turbine condensation liquid filter
2.10 - Handpiece spray water filter
2.1A - Scaler selection solenoid valve
2.2A - Syringe fibre optics cooling selection solenoid valve
2.3A - Turbine selection solenoid valve
2.4A - Micromotor selection solenoid valve
2.5A - Supplementary turbine selection solenoid valve
2.8A - Air spray selection solenoid valve

MAIN FEEDINGS - HYDRAULIC GROUP - AUTOSTERIL S.H.D. (CODE 380U0200)



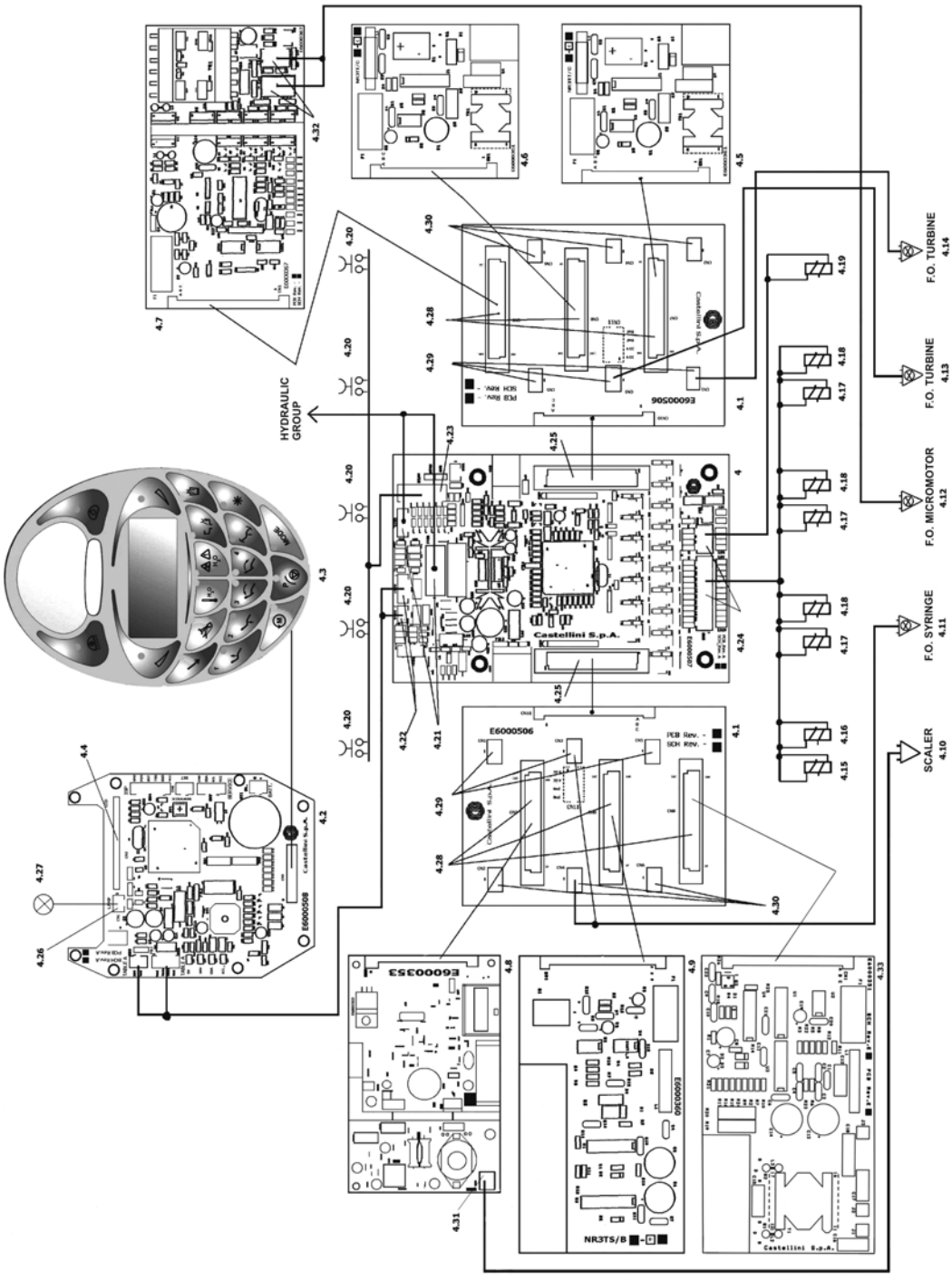
POWER SUPPLIES, PLUMBING UNIT, AUTOSTERIL, S.H.D. **(CODE 380U0200)**

1.51 - Turbine rotation air and micromotor cooling valve
1.41 - Air spray and chip-air to turbine s and micromotor valve
4.31 - NC solenoid valve for water to cuspidor
4.41 - NC solenoid valve for water to cup
4.51 - Air for Autosteril tank pressure solenoid valve
4.52 - Autosteril selection air solenoid valve
4.53 - Tank for Autosteril liquid
4.54 - Solenoid valve for air and dedicated liquid tank pressure
4.56 - Tank for dedicated liquids
4.57 - Flow sensor for liquid passage
4.58 - NO Solenoid valve for Autosteril tank plug control
4.59 - No solenoid valve for air for dedicated liquids tank plug control
4.6 - Air to coalescence filter
4.61 - Air pressure reducer
4.62 - HPA air filter
4.63 - Pressure reducer for tank and tube drying
4.64 – Solenoid valve for tube drying air
4.65 - NC solenoid valve for selection of water or dedicated liquids
4.66 - Water block actuator
4.67 - Heater for water to cup and spray and syringe liquids
4.68 - Safety valve for bottle pressures
4.69 - NC solenoid valve for continuous drainage water return
4.7 - Pressure reducer for water to cuspidor
4.8 - Cannula disinfectant liquid control solenoid valve.
4.71 - Pressure reducer for water to cup and handpiece spray
4.72 - Autosteril tank plug
4.73 - Dedicated liquid tank plug
4.74 - Solenoid valve for liquid block air
4.75 – Main switch for air and water
4.76 - Amalgam separator device

4.77 - Pneumatic solenoid valve for suction
4.78 - Autosteril liquid collection tray
4.79 - Cannula disinfectant liquid tank (S.H.D.)
4.81 - Cannula rinse solenoid valve
4.82 - Cannula attachment for disinfectant liquid injection

UNIT ELECTRIC DIAGRAMS

DENTIST'S TABLE (CODE 380T0100)

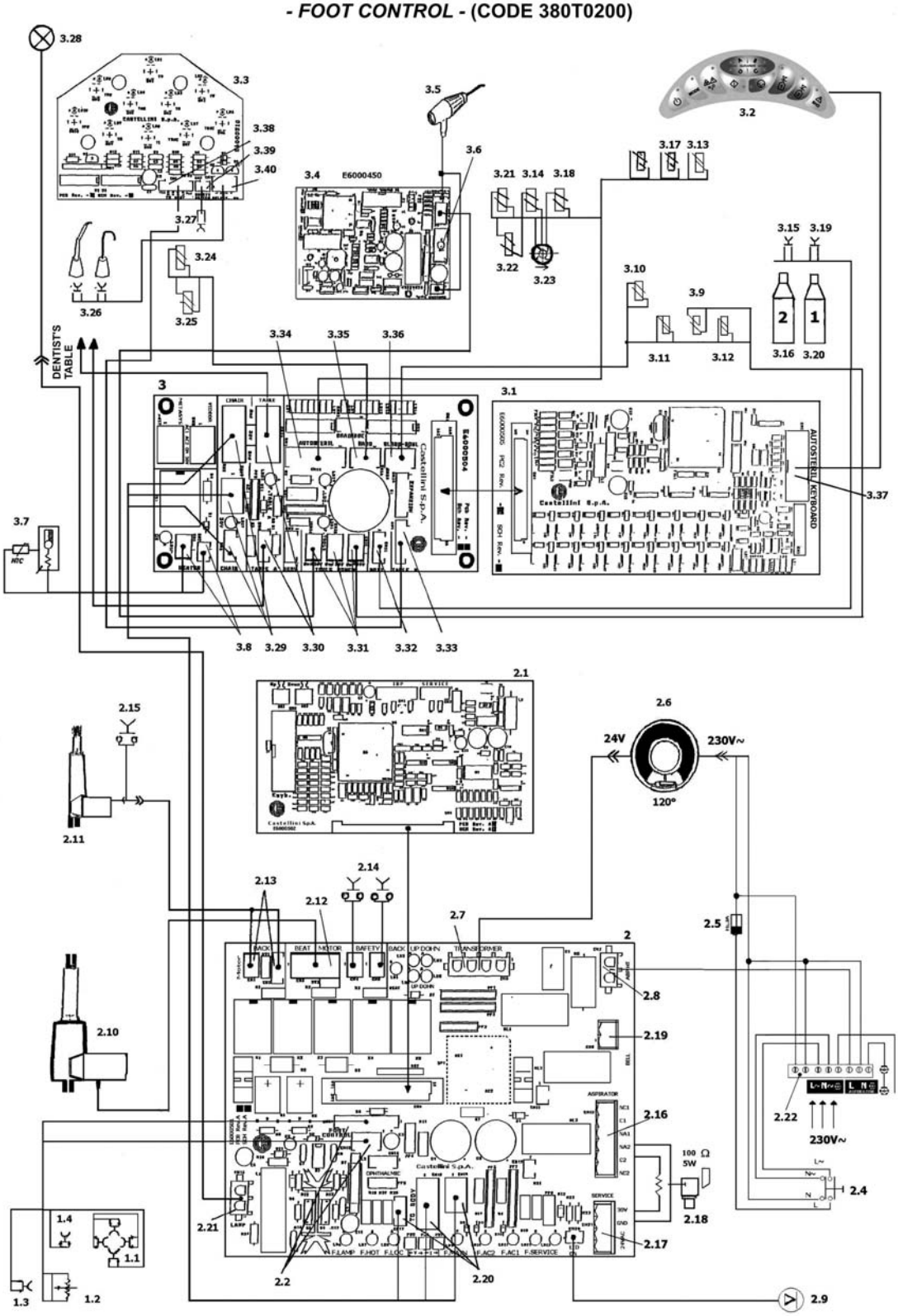


DENTIST'S TABLE (CODE 380T0100)

4 - Dentist's tray controller circuit E6000507

4.1 - Bus circuits for dentist's tray E6000506
4.2- Display controller circuit for dentist's tray E6000508
4.3 - Control circuit for dentist's tray F2210550
4.4 - Display circuit connector E2570010
4.5 - Turbine circuit
4.6 - Supplementary turbine circuit
4.7 - Brushless micromotor control circuit
4.8 - Piezosteril 5 control circuit
4.9 - Syringe control circuit
4.10 - Scaler handpiece
4.11 - Fibre optics hot Syringe handpiece.
4.12 - Fibre Optics Brushless micromotor handpiece
4.13 - Supplementary Fibre Optics turbine handpiece
4.14 - Fibre Optics turbine handpiece
4.15 - Scaler spray liquid solenoid valve
4.16 - Syringe fibre optics air solenoid valve
4.17 - Micromotor and turbine spray liquid solenoid valve
4.18 - Turbine spray rotation and micromotor cooling solenoid valve
4.19 - Spray air selection solenoid valve
4.20 - Microswitches for handpiece selection
4.21 - Connectors for dentist's tray supplies and control
4.22 - Connectors for keyboards and display supplies and control
4.23 - Connector for handpiece selection microswitches
4.24 - Connectors for solenoid valves
4.25 - Connectors for dentist's tray bus circuits
4.26 - Connector for negatoscope lamp
4.27 - Negatoscope lamp
4.28 - Connectors for handpiece circuits
4.29 - Connectors for handpiece fibre optics
4.30 - Connectors for handpiece supplies
4.31 - Connectors for Piezosteril 5 handpiece supply
4.32 - Connector for Brushless micromotor supply
4.33 – Electrosurgery feeding circuit

"DAMA" MOTOR CHAIR - HYDRAULIC GROUP - ASSISTANT'S TABLE - FOOT CONTROL - (CODE 380T0200)



"DAMA" CHAIR – WATER DELIVERY UNIT – ASSISTANT'S TRAY- FOOT CONTROL (CODE 380T0200)

1- Electric foot control

- **1.1** - Chair controls
- **1.2** - Potentiometer for micromotor speed adjustment
- **1.3** - Instrument activation microswitch
- **1.4** - Spray on microswitch

2 - E6000501 chair and unit sorting circuit

- **2.1**- E6000502 chair controller circuit
- **2.2** - Connectors for foot control cable connection
- **2.3**- Terminal board for electricity supply and suction motor connection
- **2.4** - Main electricity supply switch
- **2.5** - F.6.3A fast fuse for primary transformer protection
- **2.6**- Transformer 230/24V~ 50-60 Hz 400VA
- **2.7** - Connector for 24V connection from transformer
- **2.8** - Connector for suction motor control
- **2.9** - General unit on indicator light
- **2.10** - Chair raise – lower motor
- **2.11** - Backrest recline – upright motor
- **2.12** - Connector for chair raise-lower motor supply and control
- **2.13**- Connectors for backrest recline – upright supply and control
- **2.14** - Microswitches for anti-crush safety feature
- **2.15** - Backrest safety microswitch
- **2.16** - Terminal board for suction supply and control
- **2.17** - Terminal board for 32 Vdc and 24 Vac operating voltages
- **2.18** - Pneumatic valve for suction
- **2.19** - Terminal board for assistant call
- **2.20** - Connectors for unit supplies and control
- **2.21**- Connector for operating lamp supplies

3 - E6000504 unit body sorting circuit

3.1 - E6000505 unit body controller circuit
3.2 - F2210560Autosteril control circuit
3.3 - E6000510 assistant's tray sorting and keyboard circuit
3.4 - E6000450 Polylight (optional) supply circuit
3.5 - Polylight Steril 3 handpiece (optional)
3.6 - Fuse for Polylight Steril 3 (T3.15A) curing lamp unit
3.7 - Heater for water to cup, syringe and spray liquid
3.8 - Connectors for heater supply and control
3.9 - NC air solenoid valve for liquid block
3.10 - Solenoid valve for water to cuspidor
3.11 - Solenoid valve for water to cup
3.12 - Water return solenoid valve for continuous drainage
3.13 - NO air solenoid valve for Autosteril tank plug control
3.14 - Air solenoid valve for Autosteril tank pressure
3.15 - Autosteril reserve microswitch
3.16 - Autosteril liquid tank
3.17 - NO air solenoid valve for dedicated liquids tank plug control
3.18 - Air solenoid valve for dedicated liquid tank pressure
3.19 - Dedicated liquids reserve microswitch
3.20 - Dedicated liquids tank
3.21 - Air solenoid valve for spray liquid circuit drying
3.22 - Solenoid valve for selecting mains water or dedicated liquids
3.23 - Flow sensor for liquid passage
3.24 - Solenoid valve for cannula rinse (optional)
3.25 - Solenoid valve for cannula disinfectant liquid control (optional)
3.26 - Microswitches for assistant's tray cannula selection
3.27 - Microswitch for assistant's tray safety handle
3.28 - Operating light
3.29 - Connectors for chair base unit supplies and control
3.30 - Connectors for dentist's tray supplies and control
3.31 - Connectors for 32 VDC power supply
3.32 - Connector for liquid tank reserve microswitches
3.33 - Connector for assistant's tray supply and control
3.34 - Connector for Autosteril solenoid valve supply
3.35 - Connector for disinfecting system solenoid valve (optional) supply and control
3.36 - Connector for cup, cuspidor and continuous draining solenoid valve supply
3.37 - Connector for Autosteril control circuit supply
3.38 - Connector for assistant's tray circuit supply and control
3.39 - Connector for assistant's tray safety handle microswitch
3.40 - Connector for assistant's tray handpiece selection microswitches

DUO

PART V – SCHEDULED MAINTENANCE PROGRAM, SERVICING AND WARRANTY CONDITIONS

SCHEDULED MAINTENANCE AND SERVICING

INTRODUCTION

In accordance with Directive 93/42 EEC, Appendix 1 Item 13.6 par. D, the periodic maintenance program contains *"complete information regarding the nature and frequency of the operations necessary to constantly ensure the efficiency and safety of this equipment".*

The Manufacturer notes that all scheduled maintenance and/or servicing of this equipment MAY ONLY be performed by specialised personnel in possession of a regular, currently valid "Castellini Authorised Technician" license (See Part "Important Information" and Part "Essential Rules").

As provided by Directive 93/42 EEC, implemented in Italy through Law Decree n° 46 of 24 January 1997 and Law Decree n° 95 of 25 February 1998, Castellini S.p.A, guarantees that the safety, reliability and performance requisites certified by the EC mark will be maintained only if maintenance and/or servicing is performed by persons who are specially trained, authorised and updated by Castellini itself and in possession of a regular, currently valid "Castellini Authorised Technician" license.

Any maintenance and/or servicing performed by persons other than those authorised will be considered improper use in contradiction with the manufacturer's directions and will as a result compromise the essential safety requisites prescribed by Directive 93/42 EEC, thereby invalidating the EC mark placed on the device. The warranty will likewise become null and void (see item A, letter 2 of the Warranty Conditions), and the manufacturer will be exempted from all the liabilities provided under President's Decree 224/88 and/or applicable European Directives.

In light of the above considerations, if maintenance and/or servicing is entrusted to persons not in possession of a valid "Castellini Authorised Technician" license, the safety of this device WILL NOT BE GUARANTEED BY THE EC MARK and the user will be working with a product that does not comply with current regulations, according to the requisites stated by Legislative Decree 626/94 and/or applicable European Directives.

SCHEDULED PERIODIC MAINTENANCE

The Manufacturer notes that scheduled periodic maintenance MUST BE performed according to the terms and procedures indicated below, in order to preserve the validity of all the certifications pertaining to the device and the manufacturer's liability in regard to the EC mark on the product itself.

Periodic maintenance operations must be performed at the time intervals indicated in the periodic check forms provided below.
The owner of the device is always responsible for calling in the technician, who must meet the requisites described above;
The Technician who performs scheduled maintenance will ensure that the periodic check forms provided are duly and accurately compiled and, on his own responsibility, he will sign and stamp them;
The periodic check forms are in two copies; one must remain attached to this manual as proof that the periodic check has been carried out;
The owner of the device is responsible for keeping all the technical documents regarding maintenance work and the periodic check forms, which must be shown to inspectors on request.
For each scheduled maintenance operation the user will be charged hourly labour costs, a flat-rate calling cost and the cost of replacing any worn parts, according to the existing contract conditions, unless otherwise indicated on the periodic check forms themselves.
Should any faults be revealed during the scheduled maintenance checks, the technician will either service the equipment or replace any worn parts.

N.B.: IN THE PERIODIC CHECK FORMS THE MANUFACTURER PRESCRIBES A COMPULSORY GENERAL OVERHAUL OF TURBODRILLS 3 YEARS AFTER THEIR INSTALLATION. FOR THIS PURPOSE THE TURBODRILLS MUST BE SENT TO THE MAIN OFFICE OF CASTELLINI S.P.A. (Via Saliceto, 22, 40013 Castel Maggiore Bologna) AND MUST UNDERGO FURTHER OVERHAULS EVERY THREE YEARS.

DESCRIPTION OF SCHEDULED MAINTENANCE OPERATIONS

All scheduled maintenance must include all the operations specified in the Check List on the back of each periodic check form.
The Check List must be completely filled out and duly stamped and signed by the technician who performs the maintenance.

SERVICING

The manufacturer accepts no liability for guaranteeing the certifications pertaining to the device, compliance with the EC mark requisites or the conformity of this device with current laws, as prescribed by Leg. Decree 626/94 and/or applicable European Directives, if servicing is not carried out in full accordance with the rules provided in this manual (See in particular Part IV, Instructions for installers, ESSENTIAL RULES).

The Manufacturer again emphasises that only persons in possession of a currently valid "Castellini Authorised Technician" license may service the equipment (See above considerations in the Introduction, of this manual).
Technical personnel, as specified above, may not connect to Castellini products any other medical devices and/or accessories that are not recommended by Castellini or are in any case outside the parameters of compatibility indicated by Castellini S.p.A. Unauthorised modifications, arbitrary tampering and maintenance work not complying with the directions provided by Castellini are likewise forbidden, as is the use of non-original spare parts and/or components.

Any failure to comply with the above prescriptions will be considered improper use in contradiction with the manufacturer's directions and will as a result compromise the essential safety requisites prescribed by 93/42 EEC Directive, thereby invalidating the EC mark placed on the device. All liabilities will fall on whoever has performed the work without authorisation.

IMPORTANT
Original Castellini spare parts and/or components are exclusively available through the Castellini S.p.A. main office and local Authorised Service Centres.

Whenever servicing is to be carried out, the user is fully entitled to ask the technician to show his license as "Authorised Castellini Technician", which must be identical to the facsimile shown below (Picture 1).

FRONT *BACK*

Tecnico Autorizzato Castellini
Nome
Cognome
data di emissione
data di scadenza
Centro Impiantistico
CAST. AT/21
Questo documento è di proprietà della Castellini S.p.A. e deve essere restituito in qualsiasi momento a semplice richiesta. Deve essere esposto nel corso di visite presso la clientela. La sua validità è limitata alla data indicata. Alla scadenza deve essere restituito alla Castellini S.p.A., la quale avrà facoltà di effettuare l'emissione di un nuovo documento. L'uso improprio o la manomissione del presente e comunque l'utilizzo oltre i termini di validità dello stesso, saranno perseguiti a norma di legge. Il furto o lo smarrimento devono essere comunicati alla Castellini S.p.A. nel più breve tempo possibile. Chiunque lo trovi è pregato di inviarlo a:
CASTELLINI S.p.A. Via Saliceto,22
40013 - Castel Maggiore (BO) - Tel. 051.700877

…license as "Authorised Castellini Technician"…

PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE CASTELLINI DENTAL UNIT

The user is responsible for complying in full with the "protocol for hygiene and maintenance of the dental unit" when carrying out the maintenance operations reserved to the user him/herself and adequately trained assistants.

The "protocol for hygiene and maintenance of the dental unit" represents an integral part of the equipment use and maintenance manual.

The manufacturer recommends posting the "protocol for hygiene and maintenance of the dental unit" on the wall to allow constant and immediate consultation.

WARRANTY CONDITIONS

A) Equipments manufactured by CASTELLINI S.p.A. are covered by warranty for a period of 365 days from the date of intallation and therefore will be repaired and/or replaced free of charge any part recognised defective during the warranty period, with the exception of defects caused by fortuitous events, natural wear and tear, and defects due to the fault of the buyer (negligence, inexperience, shocks, falls, accidental knocks).

At the installation date the Warranty Certificate must be returned to Castellini S.p.A. headquarters duly filled, signed and countersigned by the Castellini dealer, otherwise the warranty will be automatically invalidated.

The parts to be repaired or replaced must be sent at customer expansas prepaid to our warehouses. Parts under warranty (with corresponding serial number) will nat be sent before the defective part has been received, unless an exception is made exclusively by CASTELLINIS.p.A..

The manufacturer's civil and criminal liability ceases and the warranty is automatically invalidated in following cases:

1) if the user does not observe the essential environmental requirements given in the "warnings" section in the operation and maintenance manual supplied with the equipment and available on request at any time;

2) if assembly, addition re-calibration, adjustment and repair operations are not performed exclusively by "Castellini authorized" technical personnel with a valid licence;

3) if oter medical devices and/or accessories not envisaged by Castellini S.p.A. or not meeting the compatibility specifications laid down by Castellini S.p.A. are connected to "Castellini" products;

4) if unauthorised modifications, tampering or inappropriate maintenance operations are performed or if non-original spare parts and/or components are used;

5) if the appliance is not used in accordance with the operating instructions (as indicated in the operation and maintenance manual) and for its intended purpose;

6) if the electrical, water and compressed air systems, the water outlet system and the suction system (if any) are not set up in accordance with the conditions given in the operations and maintenance manual (see "environment set-up" section and 1:1 scale installation plan drawing)and in compliance with legislation in the country of use;

7) if regular scheduled maintenance procedures ore not carried out or any of the requirements of the operation and maintenance manual are not met.

We also stress that when the equipment is sald as new failure to observe the system specifications laid down by CASTELLINI S.p.A. or attributing to the devices performance and/or compatibility data that differ from those stated by CASTELLINI S.p.A. will release CASTELLINI S.p.A. of all responsability regarding the CE marking on the product.

The warranty does not cover guards, glass parts, ceramic parts, enamelled parts, light bulbs, warning lamps, switches, upholstery, electric cables, tubes in general.

B) Equipments of other brands will be covered by the warranty issued by the original manufacturer. In any case CASTELLINI does not assume any responsibility regarding the warranty.

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 1 – *1 month*

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

FREE

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.T.009-E/1 (italiano)

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 1 – *1 month*

This form must be taken by the Authorized Castellini Technician

FREE

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.T.009-E/1 (italiano)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Steriilisation of HPA filter cartrige (if present)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece
- ❑ Check/Lubrication of O-ring of quick coupling of turbine (S1)
- ❑ Check/Lubrication of O-ring of quick coupling of micromotor (S1)

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective shathing of power cable
- ❑ Check on air/water sypply connections

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Steriilisation of HPA filter cartrige (if present)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece
- ❑ Check/Lubrication of O-ring of quick coupling of turbine (S1)
- ❑ Check/Lubrication of O-ring of quick coupling of micromotor (S1)

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective shathing of power cable
- ❑ Check on air/water sypply connections

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 2 – 6 *months*

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

FREE

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/2 (inglese)

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 2 – 6 *months*

This form must be taken by the Authorized Castellini Technician

FREE

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/2 (inglese)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Steriilisation of HPA filter cartrige(if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Cleaning of Amalgam separator (if present)
- ❑ Cleaning of water filter (50μ - 25μ)
- ❑ Condensate drainage of general main air filter
- ❑ Cleaning and stability control of the foot pedal basement

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece
- ❑ Check/Lubrication of O-ring of quick coupling of turbine (S1)
- ❑ Check/Lubrication of O-ring of quick coupling of micromotor (S1)

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective shathing of power cable
- ❑ Check on air/water sypply connections
- ❑ Check on anchorageof casing/protections of chair and dental unit

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Steriilisation of HPA filter cartrige(if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Cleaning of Amalgam separator (if present)
- ❑ Cleaning of water filter (50μ - 25μ)
- ❑ Condensate drainage of general main air filter
- ❑ Cleaning and stability control of the foot pedal basement

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece
- ❑ Check/Lubrication of O-ring of quick coupling of turbine (S1)
- ❑ Check/Lubrication of O-ring of quick coupling of micromotor (S1)

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective shathing of power cable
- ❑ Check on air/water sypply connections
- ❑ Check on anchorageof casing/protections of chair and dental unit

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

CASTELLINI S.p.A.

PERIODIC CHECK

form n° 3 – *1 year*

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

FREE

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/3 (inglese)

CASTELLINI S.p.A.

PERIODIC CHECK

form n° 3 – *1 year*

This form must be taken by the Authorized Castellini Technician

FREE

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/3 (inglese)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (daily oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

CASTELLINI S.p.A.

PERIODIC CHECK

form n° 4 – 2 years

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/4 (inglese)

CASTELLINI S.p.A.

PERIODIC CHECK

form n° 4 – 2 years

This form must be taken by the Authorized Castellini Technician

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/4 (inglese)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 5 – *3 years*

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

The Manufacturer notes that Turbodrills must undergo compulsory general overhaul; for this purpose they must be sent to the main office of
Castellini S.p.A. via Saliceto, 22
40013 Castelmaggiore Bologna

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/5 (inglese)

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 5 – *3 years*

This form must be taken by the Authorized Castellini Technician

The Manufacturer notes that Turbodrills must undergo compulsory general overhaul; for this purpose they must be sent to the main office of
Castellini S.p.A. via Saliceto, 22
40013 Castelmaggiore Bologna

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/5 (inglese)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY

PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY

PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 6 – *4 years*

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/6 (inglese)

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 6 – *4 years*

This form must be taken by the Authorized Castellini Technician

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/6 (inglese)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

CASTELLINI S.p.A.

PERIODIC CHECK

form n° 7 – 5 years

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/7 (inglese)

CASTELLINI S.p.A.

PERIODIC CHECK

form n° 7 – 5 years

This form must be taken by the Authorized Castellini Technician

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/7 (inglese)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY

PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY

PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 8 – *6 years*

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

The Manufacturer notes that Turbodrills must undergo compulsory general overhaul; for this purpose they must be sent to the main office of
Castellini S.p.A. via Saliceto, 22
40013 Castelmaggiore Bologna

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.1.009-E/8 (inglese)

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 8 – *6 years*

This form must be taken by the Authorized Castellini Technician

The Manufacturer notes that Turbodrills must undergo compulsory general overhaul; for this purpose they must be sent to the main office of
Castellini S.p.A. via Saliceto, 22
40013 Castelmaggiore Bologna

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.1.009-E/8 (inglese)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 9 – *7 years*

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/9 (inglese)

CASTELLINI® S.p.A.

PERIODIC CHECK

form n°. 9 – *7 years*

This form must be taken by the Authorized Castellini Technician

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.I.009-E/9 (inglese)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 10 – *8 years*

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

DENTAL UNIT

*mod.*_____ *serial n°*_____

CHAIR

*mod.*_____ *serial n°*_____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.T.009-E/10 (inglese)

CASTELLINI® S.p.A.

PERIODIC CHECK

form n° 10 – *8 years*

This form must be taken by the Authorized Castellini Technician

DENTAL UNIT

*mod.*_____ *serial n°*_____

CHAIR

*mod.*_____ *serial n°*_____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.T.009-E/10 (inglese)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY

PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY

PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

CASTELLINI S.p.A.

PERIODIC CHECK

form n° 11 – *9 years*

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

The Manufacturer notes that Turbodrills must undergo compulsory general overhaul; for this purpose they must be sent to the main office of
Castellini S.p.A. via Saliceto, 22
40013 Castelmaggiore Bologna

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.T.009-E/11 (inglese)

CASTELLINI S.p.A.

PERIODIC CHECK

form n° 11 – *9 years*

This form must be taken by the Authorized Castellini Technician

The Manufacturer notes that Turbodrills must undergo compulsory general overhaul; for this purpose they must be sent to the main office of
Castellini S.p.A. via Saliceto, 22
40013 Castelmaggiore Bologna

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.T.009-E/11 (inglese)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY
PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

CASTELLINI S.p.A.

PERIODIC CHECK

form n° 12 – *10 years*

This firm, duly compiled, stamped and signed by an Authorized Castellini Technician, must remain permanently affixed to the manual as proof that the periodic chek has been performed and must be shown on request to the Supervisory Authorities

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.T.009-E/12 (inglese)

CASTELLINI S.p.A.

PERIODIC CHECK

form n° 12 – *10 years*

This form must be taken by the Authorized Castellini Technician

DENTAL UNIT

mod. _____ *serial n°* _____

CHAIR

mod. _____ *serial n°* _____

Date

_____

Stamp and signature of Authorized Castellini Technician

_____

License expiry date _____

Mod. Cast. U.T.009-E/12 (inglese)

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY

PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

SANITATION AND CLEANING
- ❑ Cleaning of lamp reflector and glass
- ❑ Surface cleaning ef dental unit and chair (with STER 1 PLUS)
- ❑ Cleaning of surgical suction system (with STER 3 PLUS)
- ❑ Activation of Time Flushing system/Autosteril system
- ❑ Cleaning and stability control of the foot pedal basement

REPLACEMENT OF PARTS
- ❑ Replacement of water filter filtering element (50μ - 25μ)
- ❑ Replacement of general air filter filtering element
- ❑ Replacement of suction system
- ❑ Replacement of HPA filter cartridge (if present)
- ❑ Replacement of MWB filter cartridge (if present)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of turbine (S1)
- ❑ Check/lubrication or replacement of O-ring of quick coupling of micromotor (S1)

LUBRICATION
- ❑ Lubrication turbine (Daily Oil)
- ❑ Lubrication of micromotor handpiece

CHECKS ON SAFETY

PROTECTION DEVICES
- ❑ Check on chair descent safety stop
- ❑ Check on chair backrest safety stop
- ❑ Check on functioning of main switch
- ❑ Check on water/spray safety valve
- ❑ Check on connections and protective sheathing of power cable
- ❑ Check on air/water sypply connections

MECHANICAL DEVICES
- ❑ Check on balance of dental unit articulated arm
- ❑ Check on balance of lamp articulated arm
- ❑ Check on rotation/articulated bracket of dental unit and lamp arm
- ❑ Check on shifting/articulation of headrest

FUNCTIONAL/DIAGNOSTIC CHECKS
- ❑ Check on dental unit funcions
- ❑ Check on Chair functions/Programming system
- ❑ Check on instrument functions
- ❑ Check on turbine supply pressure
- ❑ Check on syringe supply pressure (air/water)
- ❑ Check on Time flushing/Autosteril system
- ❑ Check on supply system
- ❑ Check on system of separate supply/physiological solution
- ❑ Check on cup/cuspidor timing
- ❑ Check on amalgam separator (if present)
- ❑ Check on suction system/Suction Stop device
- ❑ Check on S.H.D. system (if present)

RENEWED INSTRUCTIONS TO THE USER AND ALL ASSISTANT PERSONNEL IN REGARD TO THE PROTOCOL FOR HYGIENE AND MAINTENANCE OF THE DENTAL UNIT

Date_____

Stamp and signature of Authorised Castellini Technician

_____

License expiry date_____

DUO

APPENDIX I – CERTIFICATIONS

EC Certificate

Full Quality Assurance

No. CE 01083

Issued to:

Castellini Spa
Sede Centrale
Via Saliceto, 22
Castel Maggiore
Bologna
40013
Italy

In respect of:

The design, development, manufacture and installation of dental equipment, x-ray generators and their supports and stands, electrosurgical units, and dental handpieces

on the basis of our examination under the requirements of Council Directive 93/42/EEC, Annex II, Section 3.2.

For and on behalf of the British Standards Institution, a Notified Body for the above Directive (Notified Body Number 0086):

Anne Boyd, Managing Director, BSI Product Services

First Issued: **11 Dec 1995** Date: **30 Sep 2005**

Expiration Date: **10 Dec 2010**

Page: 1 of 1

Conditions of Approval
Validity of this certificate is conditional on the quality system being maintained to the requirements of the Directive.
This approval excludes all products designed and/or manufactured by a third party on behalf of the company named on this certificate, unless specifically agreed with BSI.

BSI Product Services
BSI Product Services
Maylands Avenue, Hemel Hempstead, Hertfordshire HP2 4SQ United Kingdom
Tel +44 (0)1442 230442 www.bsi-global.com
BSI Group Headquarters: 389 Chiswick High Road, London W4 4AL Tel: (0)208 996 9000

CERTIFICATE OF REGISTRATION

Quality Management System

This is to certify that:

Castellini S.p.A
Sede Centrale
Via Saliceto 22
40013 Castel Maggiore
Bologna
Italy

Hold Certificate No: **FM 51210**

and operate a Quality Management System which complies with the requirements of **BS EN ISO 9001:2000** *for the following scope:*

The design, manufacture, installation, maintenance and service of "own brand" dental equipment, X-ray units, electrosurgical units and dental handpieces. Provision of training and qualification for internal and external service engineers to install, maintain and service company products.

For and on behalf of BSI:

Certification Manager, Systems Assessment

Originally registered: **9 Jul 1999** *Latest issue:* **30 Dec 2003** *Page:* 1 of 1

UKAS QUALITY MANAGEMENT 003

MGMT. SYS. RvA C 030

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Group Headquarters: 389 Chiswick High Road, London W4 4AL, UK.

BSI Management Systems

MC4403/ISSUE 1/SA/0201/UK/DP

CERTIFICATE OF REGISTRATION

Quality Management System

Castellini S.p.A

Sede Centrale
Via Saliceto 22
40013 Castel Maggiore
Bologna
Italy

Operate a Quality Management System which complies with the requirements of

BS EN ISO 9001:2000

for the activities detailed in the scope of registration.

Certificate No: **FM 51210**

Signed on behalf of BSI

Originally registered: **9 Jul 1999**

UKAS QUALITY MANAGEMENT 003

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BSI Management Systems

MC4402/ISSUE 1/SA/0102/UK/DP

CERTIFICATE OF REGISTRATION

Quality Management System

This is to certify that

Castellini S.p.A
Sede Centrale
Via Saliceto, 22
Castel Maggiore
Bologna
40013
Italy

Hold Certificate No: ***MD 76089***

and operate a Quality Management System which complies with the requirements of ***ISO 13485:2003*** *for the following scope:*

The design, manufacture, installation, maintenance and service of "own brand" dental equipment, x-ray units, electrosurgical units and dental handpieces. Provision of training and qualification for internal and external service engineers to install, maintain and service company products to maintain compliance of products

For and on behalf of BSI:

Alastair Trivett, Managing Director, BSI Product Services – Global

First Issued: 23 Jan 2004 Date: 30 Oct 2006

Expiration Date: 22 Jan 2010

UKAS QUALITY MANAGEMENT 003

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BSI Product Services

MC32S8/ISSUE 3/PS/0403/DP

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